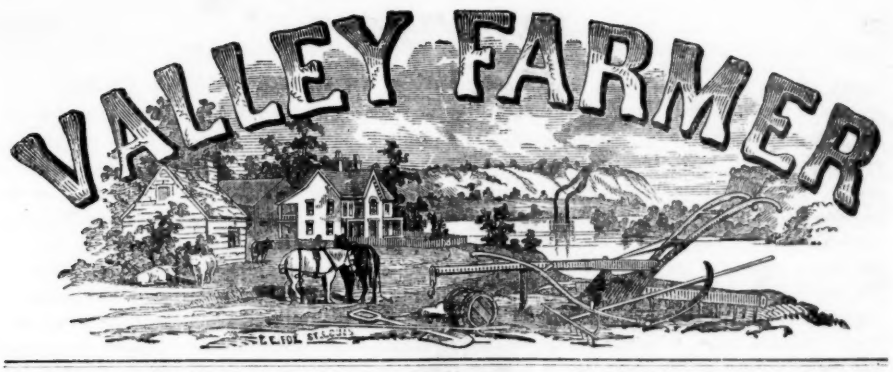

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AIMS OF THE FARMER.

The farmer, as a farmer, should have aims peculiar to himself. As a man, he should have the aims common to noble humanity, to be and live a true and honorable man, to be a generous friend, a true husband and father, a frank, manly, high minded citizen, an earnest friend and patron of science, art, improvement; sober, industrious, honest, chivalrous, genial in temper, forbearing and forgiving. But as a farmer he ought to have, beyond all other aims, those peculiar to the profession of agriculture. Every professional man who succeeds in his profession, has his peculiar aims. So it should be with the farmer if he would succeed well. What are the true aims of the farmer? First of all, he should aim to have a good farm, not simply a passable farm as to soil, arrangements, productiveness, but a *number one* farm, a farm rich of soil, easy to till, conveniently arranged and fenced, well-watered, drained, guarded against washing, properly divided as to pasturage, meadow, orcharding, &c. To this end he should be diligent in manuring, deep plowing, draining, rotating of crops, fencing and ordering his farm aright. It will not do to be always bleeding a farm. You must feed it or its life blood will soon be exhausted. Many farms, like many horses, are worked to death and not half fed. Put into the stomach of the farm, which is its soil, enough good manure, or fertilizing material, and it will grow fat and fair.

Take care of your farm as you would a favorite horse. Keep its spirits up and its beauty on by generous feeding and care. Let no field and no corner be neglected. Feed largely from the manure wagon and curry well with the plow and harrow, then do not overwork it by exhausting crops, and you will have a farm that will shine and do service. New farms, like young horses, are often ruined very early. Never overwork a young horse. He must have good care and careful usage till he reaches his maturity at seven or eight years of age. Then his life will be long and vigorous. So with a new farm. It must not be exhausted at first. Keep its original fertility up and if needed improve it. Next to a good farm comes good buildings, for the family, the stock, the crops and tools. This should be one aim ever before the farmer.—Don't be satisfied with a log house and stable. Crave good buildings and enough of them and get them as soon as you can.

Good crops too, should fill the farmer's eye. Ordinarily he should be ashamed of a poor crop—as the lawyer would of a poor speech, or the shoemaker of a poor shoe. Get good crops if they are to be had. Aim for the best. It is the good crops that pay. They are to be got by good farming. They don't come at random like April showers. There is science and art in good farming, there is theory and practice, there is philosophy and work. Go in for good crops by the use of the proper means.

Next in order comes stock as an aim of the farmer, good stock—capital stock—premium stock. Raise the best breeds and the best spec-

imens of each breed. Don't keep scrawny crowbaits on the farm. They are a disgrace to any farm, and ought to be to any farmer. With proper pains and care, secure the best. They are the easiest raised, easiest kept, healthiest, pay the best and look the best. A farmer should care as much for the looks of his farm and stock as his wife does for the looks of her bonnet.—He should be a little proud or well satisfied with his good things, as should a true man of his honor or character. A farmer's crops and stock are the criterions of his character as a farmer. As the sluggard is known by his weeds and broken windows, so is the farmer by what he rais es. He writes his character out in living forms all over his farm. If his animals are poor and sharky, they reproach him more sarcastically than can any speech of pen or tongue. If they are fine and lusty they praise him with a voice of living and robust eloquence. Then aim for good stock, every farmer of the great, rich West.

A good orchard and garden should be among the aims of the farmer. They beautify and adorn his farm; they increase its value and profits; they benefit his family; they load his table with the daintiest luxuries; they administer to the health of his household; they are standing invitations to his friends to come and visit him; they are evidences of his intelligence and good taste; they are proofs of his generosity and affection for his family; they testify to his practical skill in the fine arts; they cultivate his mind and develope his manhood. An orchard and a garden are indispensable on a good farm.

He should aim to be intelligent in his profession; not only to be practical, but to be scientific, to know what to do and why. He should be well read; posted up in all improvements and all the best methods. And he should endeavor to inculcate in the minds of his children a desire to understand the true principles upon which agriculture, as an enlightened profession, is based. His library should be well stored; his reading table well spread with agricultural papers; and he should know all that is in them. Thorough knowledge and thorough practice should be his motto.

Such a farmer will succed. Place him where you will, he must succeed. He will wrench fertility from rocks, clays, sands, from swamps, hills and plains. He will make the trees shed richness and the animals drop fertility all over his farm. Aim to be such a farmer. *

CHINESE SUGAR CANE.

We are informed that some of our readers are quite impatient for us to say more on the subject of the new cane. We promised them in our December number that we would give them all the important information that we could gather from every source, whether in this country or from foreign countries, in ample time for the operations of the coming season. We could fill our pages with the dry details of numerous correspondents, giving their experience in planting an ounce or two of seed, the mode they employed in pressing one hundred canes, and that these canes yielded so many quarts of juice, and this juice was boiled down to four quarts of tolerable syrup. This is about the sum total of the statements of a thousand and one writers whose communications have encumbered the columns of many of the papers during the last five or six months.

Our friends should not suffer their enthusiasm to lead them astray. But little light has yet been thrown on the subject of the manufacture of syrup or sugar, and it will undoubtedly require another year, and perhaps several years to furnish us with all the facts necessary to perfect success in the business. Under these circumstances we would advise farmers not to calculate on entering too largely in to the business the coming season under the expectation of realizing large profits. Thousands of dollars will be lost in fruitless attempts to manufacture the juice of the cane into sugar.

We stated on a former occasion that it had been given as the opinion of some of the most distinguished chemists and sugar refiners in this country that sugar could not be made from this plant, that it contained but little else than grape sugar. After numerous experiments, Mr. Belcher, an extensive sugar refiner of St. Louis, came to the same conclusion. But at the late meeting of the United States Agricultural Society, held in Washington, statements were introduced, which clearly established the fact that sugar can be made from the Chinese sugar cane, and with the prospect of a fair profit, in latitudes where the cane can fully mature. Dr. C. T. Jackson stated to the meeting, that in his experiments he had obtained a large per centage of crystalizable sugar from the juice of this plant. But the most conclusive evidence on this subject was furnished by Mr. Joseph Lovering, of Oak Hill, Philadelphia county, Pa. Mr. Lovering is an extensive sugar refiner, and last spring he planted about half an acre of sugar cane, from which at the proper time he commenced a series

of experiments in the manufacture of sugar, which he continued for a period of about two months. In these experiments Mr. Lovering states that he was perfectly successful in producing sugar, five different specimens of which, and one of syrup, he laid before the meeting of the United States Agricultural Society. One sample is said to be refined loaf sugar of a beautiful quality, and the others varying in color and quality from a handsome granulated brown to those of a darker shade. From the result of these experiments, Mr. Levering estimates the produce equal to 1,221 pounds of sugar and 74 gallons of syrup per acre.

Mr. Lovering seems to have found no difficulty in producing this result, which looks a little strange, when compared with the result of the efforts of Mr. Belcher and others. That Mr. Lovering is perfectly sanguine in his estimates we have no doubt, but we very much doubt whether an average yield of two-thirds of this amount will ever be realized throughout the country. We hope, however, that in this we shall be mistaken. Certainly, in the South and West the cane may be expected to yield greater returns than in that part of Pennsylvania where these experiments were made. Mr. Lovering has published a pamphlet in which he sets forth the process employed by him. We should be glad to present the substance of this process to our readers, but it occupies much space in the details of each daily experiment. If we do not receive it in a more condensed and tangible form, we will extract the most important portions of it for a future number of the *Valley Farmer*.

From the intimations that have been given to the public, we had some reason to hope that the process of sugar making from the Imphee, or African Sugar cane, that has been patented by Mr. Leonard Wray, of England, would have proved to have been perfectly successful.—One hundred acres of land on the plantation of Governor Hammond, of South Carolina, was planted with this variety, but much of it was planted on swamp or wet land, not calculated to produce the greatest amount of saccharine matter, and besides it was finally ascertained that the seed was largely mixed with the Dourah corn. From these and other causes these gentlemen will require another year to test fully the value of this plant and Mr. Wray's mode of making sugar.

We hope the pure variety of the Imphee will prove a valuable sugar producing plant and that either from it or the Chinese variety, sugar may be manufactured with profit. But in the infancy of the business, and the great lack of knowledge of the best methods of manufacture, we would again caution farmers from planting too extensively. Yet we would advise all those who are that way inclined to plant some and continue their experiments on a small scale.

THE STRUCTURE AND FUNCTIONS OF PLANTS.

The cultivation of the various agricultural plants is by far the most important of the labors of the husbandman. The spontaneous productions of the earth are only sufficient for satisfying the wants of man in a rude state of society, but as civilization advances, a taste for the comforts and luxuries of life is manifested in a greater degree, and the cultivation of the soil becomes important in order to produce a greater quantity of vegetable food, and that also of a superior quality.

A knowledge of the structure and functions of plants is of the first importance, as laying the foundation of an economical system of culture. The necessity of becoming acquainted with the various phenomena of the vegetable economy is apparent, in order that the cultivator may avail himself of the great influence exercised by human agency over the productions of the vegetable kingdom, to the greatest extent. Apart from any consideration of profit, the study of the vegetative process, to the lover of nature affords greater pleasure than that of any other branch of natural science.

It is on account of the pleasure thus afforded, as well as for the benefits that naturally result to the world of mankind, that we would urge upon every cultivator the study of these mysterious and beautiful laws. For if we can influence a seed so much, that instead of growing up into a useless, dwarfish stock, fit only for the herbarium of a botanist, it shall spring up luxuriantly and send forth such a profusion of stems as to form a little sheaf of grain, or expand its roots, which may be naturally hard and useless, into a large, succulent mass, weighing many pounds; and, if we can do all this without knowing more than the means we have employed, might we not anticipate still greater and more wonderful effects, were we acquainted with the process of the vegetable economy, by which such happy results were obtained? We should then be able to know what it is in our culture that has aided, or if there be anything in it that has obstructed the process of nature.

The importance of acquiring a certain knowledge of vegetable physiology cannot be pressed

too much upon the attention of the cultivator. By means of selecting and improving the varieties of plants, the produce of our gardens and fields is not only increased in a ten fold degree, but the *quality* of the produce is increased in a still greater proportion. The rose, in its thousand forms and shades of color, is the offspring of cultivation; the original plant from which all our beautiful varieties have proceeded, is considered by botanists, to be the common wild briar. Our plums are cultivated descendants of the sloe; the delicious apples whose species may be reckoned by hundreds, are the cultivated successors of the small, austere crabs; and our cauliflowers, cabbages and other esculent vegetables, may be regarded as almost artificial products, so much has human skill had to do in their production. Here the labor and assiduity of man are seen triumphing over the sterility of unassisted nature, and succeeding in bringing forth a race of plants calculated to supply his wants in a manner that the original species never could have done.

If the faculty of increasing the stores which nature has always provided for his support, raises a man above the brute, that of adding new products to those in existence, raises him above his fellows; and few subjects of contemplation can be more gratifying, or more elevating to a reflective mind, than this power, as it were of creation, granted to his intelligence and industry. Nor is it necessary to its enjoyment, that we should be either botanists or natural philosophers; or that we should devote more than occasional leisure hours to the pursuit. So boundless, indeed, is the scope which it affords for experiment, that it is in the power of any one, possessed of the smallest garden, and the least acquaintance with the principles of culture, so to improve the qualities of its products, as to add something to the common stock; while the farmer, who will take the pains to mark the progress of his crops, and select from them the most productive ears of corn, and the finest roots and grasses for seed, may, by perseverance in such a plan, not only acquire wealth for himself, but confer an inestimable benefit on his country. We shall take occasion shortly to propose a plan by which certain specified crops may be still further improved with the special reference to our particular climate and location and the demands of our western trade, and we hope there will not be wanting those who will be willing to spare the little time and attention necessary to continue experiments that have already proved so important to mankind, and which promise still greater results.

MANURES, &c.

Messrs. Editors:—I have read with great interest the various subjects discussed in the columns of the *Farmer* during the past year. And as you ask your numerous readers to make experiments, report progress, &c., I would respectfully ask you or some of your correspondents, (who may be versed in such matters) to give us, in your excellent paper, an article, or a series of articles, on Vegetable Chemistry.—Also the best methods of cultivating, and proper time of manuring the various fruits and vegetables, generally cultivated among us. Some of us are farmers, some fruit growers, gardeners, &c. Now we find by experiment that one plant will languish and pine away, while another will flourish luxuriantly under the influence of the same manure. All are interested in knowing the why and wherefore of this. If we refer to our books, one tells us such and such plants "must have *well rotted* manure;" another says "manures should be *carefully housed* until used, else the ammonia will escape."—Another, "*Fresh* manure is too *heating* in its nature." Now what have we learned from all this? We ask, what is "well rotted manure," and when may it be so called, if "it must be carefully housed till used?"

A series of articles on the above subject would be very gratifying to us in this section of country. Will you grant us this pleasure?

Very respectfully, yours,

R. M. Hoskinson.

Rushville, Ill.

Reply.—Our correspondent suggests a number of important queries, each of which we will endeavor to answer at some future time, and for the present confine our remarks to the question of manures, and we do so with much pleasure, because it is the most important question connected with agriculture, and because it is one of all others, generally most neglected. We are pleased to see some of the farmers of the West beginning to investigate the subject. There is no land, however rich, but will ultimately and at no distant period, require manuring, and if the system of restoration and improvement is not begun early, from the natural materials upon the farm, and before the exhausting process is carried too far, resort must be had to *foreign* and *concentrated* manures that are obtained with great difficulty and at great cost. We will answer the questions of our correspondent in the order in which he presents them.

The proper time of manuring the various fruits, whether of trees or plants, is undoubtedly in the fall. Apply the manure about the roots, and in the spring a suitable quantity of it should be plowed or forked under, and well incorporated with the soil. Good stable manure, whether of horses or cattle, may be applied with advantage to all crops, and we know of

none that will not flourish under a liberal application of it. The remarks of our correspondent on this point apply more to special or mineral manures than to yard or stable manures.

Manures applied to any crop should be decomposed or *well rotted*. What we mean by *well rotted*, is, the vegetable fibre should be well broken down and partially decomposed, giving it something the appearance of swamp muck.

On the subject of housing manure, much has been written. Manures thrown into the yard and exposed to all the washing influences of the rain and snow, undoubtedly part with much of their most essential ingredients, viz: their gasseous and liquid portions, and it is only in these two forms that manure is rendered available as the food of plants. It is, therefore, important that the manure heap be as much as is practicable protected from the wasting effects of the weather. For this purpose some use barn cellars, others erect rough sheds. Some who are not willing, or do not feel themselves able to erect sheds, adopt other methods to prevent the waste of the *liquid essence* of the manure heap. Some observing and careful farmers excavate their yards so that all the drainage shall centre in the middle where it can be absorbed by the straw and other waste litter, applied for the purpose. Others convey the drainage to compost heaps, made expressly to receive it, and in some situations it is found extremely profitable to collect all the drainage from the stalls and stables, and the manure heaps in vats, or sespools; this, after undergoing a degree of fermentation, and dilution, if necessary, is pumped into a water cart and applied immediately to the land. For meadows, an application of this kind is almost invaluable. From what we have said on this point our readers can adopt the plan best suited to the end, consistent with their various locations and circumstances.

Another important question connected with manures has recently excited quite animated discussions in the various agricultural papers of the day. We allude to the time and mode of application, whether it should be turned under immediately, or whether it should be applied and remain for a time on the surface. As the subject is an interesting one to ourselves and important to every farmer we propose to enter somewhat at length upon its discussion.

Until recently the most distinguished writers, and among them some very prominent practical farmers, have advocated the doctrine that manure, for fall or spring sown crops should be exposed in the field as little as possible, recommending that it be hauled out and spread just in advance of the plow—contending that from exposure to the air it parted with much of its ammonia and other fertilizing gases. This doctrine was strongly contended for by Sir John Sinclair and Sir Humphrey Davy, of England, Judge Buel, and many others in this country.—Judge Buel always practised and recommended in his writings that manure should be hauled out in its *long or unfermented* state, and applied to hoed and autumn ripening crops. He contended that this method secured to the soil and the crop all the valuable gases, most of which, if the manure was suffered to pass fully through the fermenting process in the yard, would escape into the atmosphere and be lost. This looks well in *theory*, and in our early practice in farming, regarding Judge Buel as our model, we long followed this plan, but often found it to be attended with unfavorable results, arising from the frequency of dry weather at the period when the crop should be making its most vigorous growth. Manure turned under in this condition, in seasons of drouth, proved rather a damage than a benefit, because it tended to increase the effects of the drouth. We allude particularly to long, or but partially fermented or decomposed manure.

There are many times when manure, for various crops, cannot conveniently be applied at any other time, than just at the season of planting; this is particularly true in regard to market gardening. In such instances we would recommend that the manure be well rotted, and thoroughly incorporated with the *surface soil*.

More recently a very general opinion appears to be gaining ground among practical farmers, in favor of spreading the manure on the surface, and the opinion is concurred in and supported by some of the best chemists and theorists in this country and in England. Some years ago Mr. James M. Garnett, and Mr. Botts and others, of Virginia, strongly recommended the practice of applying manure to the surface. Mr. John Johnstone, of Geneva, N. Y., one of the best farmers in the United States, has long practiced applying the manure to the surface in the fall. Land intended to be planted in corn in the spring, is usually in grass; upon this he spreads the manure early in the fall, where it is subject to the action of the rains, carrying to the roots of the grass the liquid drainage from the manure, causing a strong vigorous growth of grass, which is turned under with the manure in the spring and planted to corn. This is again followed with small grain, so that his land is

only manured previous to each crop of corn, in each rotation of three or four years. This practice has been tried in comparison with the old custom of applying the manure immediately to the corn crop, by one of Mr. Johnston's neighbors, on land of the same degree of fertility and character, and the result proved a large per centage in favor of Mr. Johnstone's practice. So stricking was the difference that his neighbor has become a permanent convert to the system of fall surface manuring. The prevailing opinion entertained by many distinguished farmers and chemists was, that by exposing the manure to the air and the action of the rains, the most valuable portions escaped in the form of ammonia and other gases, but recent observations seem to lead to different conclusions.

Professor Voelcker, who is at the head of the Cirencester (Eng.) Agricultural College, on this subject, remarks, that "Free ammonia is not generated in dung heaps, under a state of fermentation, however excessive, except in the centre of the heap, where the heat is greatest, and where it has risen from 120 to 150 degrees, Fahr., and that it even then rarely escapes, except in very small quantity, as the external layers of the dung heap, where but little heat is generated, arrest and fix it in its course and endeavor to escape; that the strong smell eminating from dung heaps in a state of fermentation does not arise from the ammonia escaping, but is rather to be attributed to peculiar volatile, organic combinations, to some sulphuretted and phosphorated hydrogen, and a variety of other gaseous matters, among which ammonia, as a gas, is only found in very minute quantities."

This learned professor attributes the greatest injury sustained by farm-yard manure, to arise from its being exposed to the action of rain water, especially in open yards. Professor Johnson, of Yale College, has also given it as his opinion that manure loses none of its enriching qualities by being hauled out in the fall and spread on the ground. He thinks with the temperature of that season of the year, fermentation progresses slowly and but a small amount of gas is evolved, and the ammonia, if any, is carried back into the soil by the rains and dews, and is secured to the crop of the coming season.

Our own opinion is that the *theory* of immediately incorporating the manure with the soil after it is hauled out, is correct, but will not apply so well in practice in our country where we are so subject to excessive summer drouth. In a state of solution only, is manure made available to growing plants, and if the season be dry the manure remains in the soil only a mass of woody fibre, imparting little food to the growing plants—but if spread on the surface of the field and suffered to remain during winter, much of the enriching qualities of the manure enter the soil and are readily available to the crop.

We think what we have said on the subject will be found perfectly clear to our correspondent. We also think that for all field crops where it is practicable, the manure in our climate, should be applied and spread in a well rotted condition upon the ground, in the fall previous to plowing in the spring, particularly upon grass and clover fields. All unbiased practice seems to confirm this as the most successful method, and we have no doubt that the practice will generally prevail. Crops or lands that must necessarily be manured in the spring at the time of planting, should have the finest and best rotted manure, and in this way it may be applied in less quantity, which will be less effected by drouth, and on lands so situated as to render spring manuring necessary, the dressings may be repeated every spring.

Fat Animals and Large crops Result Alike from Abundance of Proper Food.

The profits of crops as well as of cattle and hogs, depend mainly upon the return they make for the food and labor bestowed upon them. The man who grows a hundred bushels of corn, or makes a hundred pounds of meat, with the same means and labor that his neighbor expends to grow fifty bushels of corn, or fifty pounds of meat, has a manifest advantage; and while the latter merely lives, the former, if prudent, must grow rich. He gains the entire value of the extra fifty bushels, or fifty pounds. This disparity in the profits of agricultural labor and expenditure, is not a visionary speculation—it is a matter of fact which is seen and verified in almost every neighborhood. We see the fields of one farmer but half prepared, half tilled, over-run with weeds, yielding but twenty bushels of corn to the acre; while his neighbor, who exercises more forethought in the management of his lands, and in the feeding of his crops, obtains seventy-five bushels to the acre. This solves the mystery why some farmers get rich while others always remain poor, leaving worn out and exhausted farms as the only inheritance (if any) to their children, and their thriftless example to follow.

All this results from the manner of feeding and tending crops.

CULTURE OF TEA IN THE UNITED STATES.

It has been announced that the Commissioner of Patents has invited ROBERT FORTUNE, the celebrated English traveler and botanical discoverer to come to this country and superintend the introduction and naturalization of the tea plant. Mr. Fortune has travelled much and spent much time in botanical research in China, under the patronage of the British government, and has introduced many rare and beautiful plants some of which are now known to this country. No man could be found better suited to to the work proposed by the Commissioner of Patents, than Mr. Fortune. It will be remem bered that Junius Smith of South Carolina, spent much time and money in attempting to grow the tea plant in that State, and at the time of his death had succeeded perfectly in acclimating and growing the plant. Since then, we presume the subject has not received the atten tion that had previously been prompted by the enthusiasm and love of the enterprise of Mr. Smith. It has been recently stated, in connection with the effort of Mr. Smith that the project was likely to prove a failure in the United States; not, however, from any want of adaptation of the soil and climate to the plant, but labor in this country is too dear to compete with the half starved laborof China.

Such has proved to be the case with silk, for, from abundant experience it is found that the silk worm thrives and succeeds here as well or better than in any other part of the world. But we think with the rapid increase of population these objections will ultimately be removed, and that we shall yet become a great silk growing as well as a great tea growing nation.

CLOVER.—A subscriber (N. McD.,) of Greenfield, Mo., asks, "What is the right time of year to sow red clover seed, and how much should be sown to the acre; and how put in?"

REPLY—Clover seed should be sown as early in the spring as the ground is in good working order for sowing oats and other spring grain, upon which it should be sown, after the grain has been cast and the ground harrowed. A light bushing is all the covering the clover seed needs. It may be sown on winter grain early in March, (upon a snow is best). The action of the rains and slight frosts will generally cover it But to sow it on wheat immediately after harrowing in the spring, (as recommended in another place) would be better. We usually sow one bushel of seed to six acres, but some farmers, more economical than wise, put a bushel on to eight and even ten acres.

HARROWING WHEAT IN THE SPRING.

We have frequently taken occasion to speak of the advantages of this practice, still few farmers seem disposed to follow it, either from a lack of faith in its advantages, or from an indisposition to depart from the old beaten track. A good harrowing of a wheat field at the proper season in the spring, when the ground is just dry enough, has been found from repeated practice equal to a good working of a field of corn, with the best plow or cultivator. In England a good hoeing and weeding of the wheat crop is found of so much importance that many of the farmers "dibble in" their seed so as to have the plants come up in perfect rows, in order to afford the greatest facilities for the operation. In our country labor is too dear to admit of this kind of planting. Indeed there is no need of it. Our mechanics have so perfected the wheat drill that the seed may be put in with almost the same degree of accuracy that the English laborers can put it in with the dibble, so that if the price of labor here would warrant hoeing, the regularity of the drilled wheat would admit of this operation: but it is too early to think of bestowing labor in this way. The harrow answers almost as good a purpose. Experience and judgment must determine the precise time when this work should be done. It should not be before the heavy frosts are over in March and always when the ground is sufficiently dry to pulverize. To one unacquainted with the operation, he would imagine that the entire crop would be torn up by the roots, but it is not so; let the harrow be not too heavy, with the teeth sharp, and the best results will follow the operation.

If clover or grass seed are to be sown on the wheat, the harrowing should be done at any time when the ground is in good order to work, at the most suitable season for sowing the clover or grass seed. The harrowing should be done first, and the seed sown immediately, to be covered by the next rain.

As an evidence of the advantages of harrowing wheat, we give the experience of Mr. L. Graves as published in the American Farmer. He says:

"I promised you in April to write to you about the result of harrowing wheat in the Spring. I find it pays well; it gives the wheat a good start, and the harrowed portion ripens as early as the unharrowed part, and has much heavier heads; if the state of the ground and the weather suits at the time, the wheat ought to be harrowed. I shall always prefer doing it."

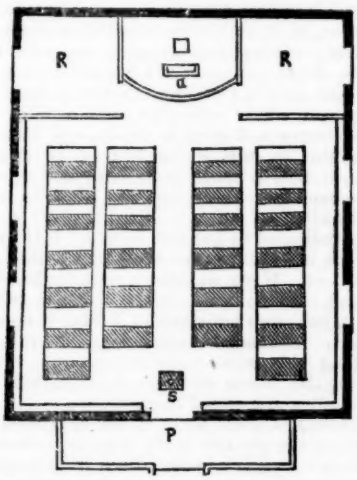
SCHOOL HOUSES.

Devoted as we are and ever must be to the educational interests of our country and race, we feel impelled to give a representation of a pleasant and cheap country school house. We do it hoping to stimulate our farmer readers to give the subject proper attention. If there is anything we dislike to look upon more than a poor farm, it is a poor school house. Call education good and expect it to be got in an old, dirty, shabby hovel! What an absurdity.—Children will never believe we prize education when we turn it out to shirk for itself in such places. Build noble shrines for education if you would have it honored. Make the place where your children's minds are trained and where they receive many strong biases, pleasant, agreeable, comfortable. All the better if you adorn it with beauty, throw around it the charm of attractiveness. Never send a child into a prison, a cavern, a cold, uncomfortable place, if you expect it to be benefitted by study or instruction. Some traveler has said he always knew a school house, by its being the worst house. What a sad commentary upon the educational developement of a people. And yet there is too much truth in it. A few years ago, and scholars everywhere in our country, sat on rough hard slabs, without backs, high enough for men, in cold rooms, in desolate places, with nothing cheerful or inspiring about. Three hours on a slab, straight up, with feet dangling! Was not that enough to make any active child hate study, books, schools?

But times are better. Good school houses are now being built. Everybody begins to see the necessity. A cheerful school house is like a cheerful home. It attracts children. It makes them feel at home and agreeable. They associate their books, lessons, studies and recitations with pleasant things. They get a taste for learning by being pleased with its accompaniments.—Letters become significant of pleasure; books of joys; schools of delights. So it should be.—And our cut shows a house that may be the pupil's school home. It may be varied in size to suit circumstances, varied in finish to suit taste and wealth Its essential arrangements are simple and cheap. Its first and best quality is comfortableness. The seats for the smaller children, which are nearest the teacher, are seven inches es wide and from eight to ten inches high. For the smaller children they should never be more than eight inches in height. The larger seats are 11 or 12 inches wide and from 12 to 14 inches high. The desks for the smaller children are a foot wide and 21 inches high; for the larger ones 15 inches wide and 26 and 27 high. The seats and desks should grade regularly from the smallest to the largest; should be numbered; should have sloping backs; should be easy of ingress and egress; should have a good shelf for keeping books; a place for inkstands and pens, where they will be steadfast.

In the cut, *a* is the teachers desk on a platform eight inches high; *s* is the stove near the door; R R are recitation rooms, provided with seats blackboard, maps, &c., or one may be used for a library room. These rooms may be partitioned off from the teacher where more teachers than one are employed, and if only one they may be open on the side next the teacher, so the reciting

class will be separated from the school and still be in the presence of the teacher, who will have the school in front and his reciting class partly at his side. A large blackboard should be behind the teacher's desk, visible alike from the school room and the recitation rooms. Assistant teachers can occupy the small rooms.—For a double convenience, the recitation rooms may be separated from the principal's desk by sliding doors, which may be closed when assistant teachers occupy the rooms. Thus one, two, or three teachers may be employed with equal convenience. The entrance porch P, may be used for hanging up caps, bonnets, coats, cloaks &c. A well or pump for water should be near. There should be a place for washing; there should be good privies, well separated from each other.



The lot of ground which belongs to the school house should be well and prettily fenced, very strong; the yard well set with thrifty shade trees; the house furnished with strong blinds, and the whole during school seasons, be under the charge of the teacher. The middle aisle in the school room should be four feet wide, the outside aisles 20 inches or two feet. The seats should be about five feet long, so as to accommodate two pupils each. A long seat may extend around the room for extra purposes. The house should be strongly and neatly finished inside and out. By finishing in the semi-gothic style of our cut, it may have an elegant and pleasing aspect without much extra expense.—Such a house, wellfi nished with a good, well shaded yard, made every way comfortable and pleasant, is not very expensive and would speak volumes for the intelligence and refinement of the people who should build it for their children. The plan will do well for small villages and can be varied in size to suit circumstances.

The ceiling should be high, not less than 12 feet; fifteen is better; to give fresh air. The room should be well ventilated; the windows hung on pullies, so as to let down from the top. Nothing is more important to a school-room than fresh air. It is the life of the children.—It is impossible to study to much profit without it. Pupils will be dull and stupid in bad air; active and studious in good air.

When will our great West be dotted over with such school houses? Let the time soon come.

(Written for the Valley Farmer.)

CULTURE OF TOBACCO.

It is all important in this crop to have an abundant supply of early plants. Farmers have some years found their later tobacco larger and heavier, and this has frequently made them too careless in preparing for an early crop.—My experience is that there are more failures by reason of scarcity and inferiority of plants than any other cause.

Too much care cannot be taken in selecting the ground and preparing beds for plants. A southern or eastern exposure is generally most forward, though in a dry Spring a northern is best. A gravelly loam is the quickest soil, but most of the fresh soil of the woods, if well burned, in a dry time, and finely prepared before receiving the seed, will bring good plants. I believe in hard burning in January and February, but some lighter in March. Let all the ashes stay on the ground and in digging up the bed keep the top soil on top, but stir deep and pulverize as much as possible. Make water drains around and through the bed. Sow a table spoonful to 100 square yards. Rake in with a light rake and tramp the bed smooth and solid with your feet.

Any strong manure, from stables or hen house, free from trash or seeds, raked in or top dressed, will materially hasten their growth, especially on thin or cold lands. I have seen fine results from a top dressing of fresh stable manure, immediately after sowing. The rains carried the principle strength of the manure into the ground, and left the fibrous portion to keep the surface moist and protect the very small plants from the frosts. A thick covering of fine brush, laying close to the ground, is a necessary protection from too much sun or drying winds. This should be removed by degrees, or just after a rain, and at sufficient time to allow plants to harden a little before transplanting.

Every body who has cultivated it knows that it takes rich land to make good tobacco, and since there is so much labor spent on this crop it is folly to plant it in any other sort. While the fresh cleared land is the surest for a crop of moderate yield, but of a bright and beautiful color, the old manured lots give us tobacco of more weight and body. It will grow well after most crops, provided the land is sufficiently

rich and is not too light or full of trash. I have seen it grow well year after year, on the same ground, also do well after corn, but next to fresh ground, wheat or old meadow land, is preferred.

The lots set apart for this crop should be plowed early and deep, but not turned over. A plow that edges its kerf is best. It should then be kept clean, pulverized and level, from beginning of spring to time of planting. I don't believe in frequent stirrings with turning plows this time of the year for any crop. I prefer the harrow or cultivator, when it will do the required work. All the manure you can scatter over the surface before hilling the ground the better.

The old practice was to make large hills with the hoe, and to save this labor many farmers recommend bedding with the plow, but the opinion in this respect is changing. I prefer to check, as for corn, and make a small hill in the cross. This brings less trash and clods under the plant, and sets it level with the general surface of land, and gives better protection against dry weather. The cultivator should be run between the rows, and the hill hoed *very soon* after setting out the plants. After this, plow and hoe as often as the condition of ground, grass, &c., require, taking care never to break the roots of the plants, and finish this part of the cultivation by pruning off the bottom leaves and making a neat, flat hill around the stalk. In low, wet lands, or bottoms liable to collect water, a different mode of cultivation should be practiced. Here taller hills or bedding is of course preferable. We should avoid pruning much above the hill, until we commence topping, as the stalk thus exposed hardens and checks the vigorous growth of the plant.

Top as early as possible, so as not to bruise the small leaves of the bud, and take out all leaves affected by their nearness to the bloom. It is supposed by most tobacco raisers that ten leaves on good land will make more than any other number, and on thin land a less number is better. If the crop is large to your force, commence topping high and top lower as you go over the crop, so as to make every plant on a given lot ripen at the same time.

Taking off worms and suckers as fast as they appear is a labor much dreaded, and the crop is more neglected in this respect than any other. The more the suckers are allowed to grow the thinner will be the leaf, and do all you can to catch them, the worms are sure to get more than their share. The best plan is to try and catch them all while small, or in the egg, but should they become numerous and large they should be hunted in a rapid manner, in the early part of the day, while they are eating the top leaves, and are more easily found.

It is an easy matter to tell when the plant is ready for the knife. To many farmers the signs of frost is the time to cut the tobacco, (even in this latitude, 36 deg. 30. min.) but if you have had early plants and have tended the crop well, you may judge of its ripeness by its appearance. As the plant ripens, the yellow spots appear, the leaf thickens and will break on the under side when pressed between the thumb and finger, and the stalk becomes hard and woody.

It is best not to cut for several days after a rain. The sun and dews thicken the leaf. A heavy rain has the opposite effect. It is best to cut in the evening, just time enough for it to wilt, and place in small piles, and put up in large ones in the morning while the plant is cool; place on sticks in the field, haul and hoist immediately into the barn. Give the sticks plenty of room, say eight inches. When cured close up and make room for the last cutting. As soon as the leaf or the largest portion of it, becomes yellow, commence a slow, drying fire for two or three days, gradually increasing until the leaf is cured. Then let the fire go out, and the leaf soften. You will then rebuild the fire and dry the barn again; repeat this process until the stem is cured. This process will make the richest, heaviest and most elastic tobacco, but if a brighter and more fancy article is desired, the fire should be kept burning until the leaf, stem and stalk are cured.

Tobacco should be taken down and bulked the first season after it is thoroughly cured; this will preserve the color as you then find it: Whereas, if it continues to hang in the barn, the damp weather will cause the colors to run, that is, the bright spots will become darker. It also loses weight by being frequently dried and dampened. After stripping and sorting into three classes and tying in small, neat bundles, it should be bulked for prizing, if in good order, if not, it must be re-hung and allowed to become thoroughly dry, and then be taken down as the leaf softens. Prizing order is generally indicated by the leaf being so soft as not to break in handling; but the stem should break when bent. Warm weather is best for handling tobacco. In cold or damp weather tobacco always has more moisture in it than it appears to have. Too much pains cannot be taken in handling this most troublesome crop, always keeping the leaves straight and smooth, and the bundles in a round form.

Although a good plant of tobacco need not stand on the ground more than three months, yet in one way or another the crop manages to occupy nearly the whole year, frequently much to the exclusion of stock and other crops. **

The Influence of Agriculture on the Character of Man.

A man's business is the school of his character. His character is moulded, or at least modified by it. If he commences it early, he grows up in it. His mental cultivation, his moral discipline, his manners, his ideas of men and things, his feelings, and all that make up the real inward man, take form and force from his profession. Business is the great school of life. It is worth more and does more for the real benfit of the world in enlightenment and moral culture, perhaps, than all the schools and colleges. Not that schools and colleges are to be valued less, but business more. Integrity, moral force, power to resist temptation, persistence and energy of character, magnanimity, forbearance, trust in the laws and providences of God, neighborly kindness and courtesy, urbanity and gen-

tlemanly bearing, are acquired as much and as rapidly in the honorable business pursuits of the world as anywhere else. Schools and churches are really but aids to these in developing the intellectual and moral force of men. Business pursuits are the natural, six-day ordinances of God. They should naturally and properly occupy a sixth part of our time and energy, in accordance with the wisdom and moral light acquired in the seventh.

Now we ask what pursuit is best adapted to the developement of a true and manly character in man? We answer unhesitatingly, Agriculture. And we do this not in disrespect to any other pursuit, but because we have solid reasons for our statement. There are many honorable and useful pursuits, but the truest and best of all is agriculture. For health it is pre-eminent. For independence it is first of all. And this is one of the first essentials of a manly character. A man must be, to a certain extent independent of his fellow men, or he will likely to be time serving and sycophantish; he will be tempted to think and act to please his fellow men; he will cater to their tastes till he will imbibe them; he will succumb to their prejudices till he will feel them; he will defer to their opinions till he will accept them; he will yield to their faults till they will become his. In a word, he will be liable to be as dependent on his fellow men for a character as he is for a business. The farmer is most independent in business; he may be the most independent in thought, opinion, feeling and character. He may be religiously and morally independent.—He may hold his own opinions on all subjects and act more free of fashion, custom, usage, public opinion, general sentiment, than any other man. This consideration alone places agriculture eminently above every other pursuit. The independent man is in one sense a true man. He uses his own mind for his own purposes. He thinks for himself; he acts for himself; he feels his own moral responsibility, feels that he is a child of God, called upon to form his opinions, his character and his life according to his own best judgment. Moreover, he is away from the stirring scenes of excitement and temptation, and left more to meditation, to calm decision, to good influences. Nature is about him.—God's works are all the time impressing him. Fanatics and deceivers are not storming him perpetually. In the quiet of his family and his duty with his books and papers, and quiet neighbors about him, he may acquire the noblest character with the least possible effort. His moral advantages over city men are very great. The allurements of trade, of competition, of fashion, of display, of dissipation, of folly, are far from him. The fields of science are about him. And the books on science, history, travel, law, morals and religion may be in his library as well as in any man's. For intelligence he may be second to no man. In virtue and independence he may be king of all. In affection, courtesy and kindness, he may not be surpassed. The farm then, we say, is the proper school of man. Agriculture is his proper vocation. In it he may acquire the best character and live the noblest life.

Timothy.

MESSRS. EDITORS:—I wish to raise a crop of timothy hay fit to harvest the present season. Can it be done? If so, at what time and in what manner must it be sown? Also, how much seed must be sown to the acre? By answering these questions you will confer a great favor upon

Your Ob't. Servi't.

Staunton, Ill. M. E. H.

REPLY:—You cannot raise a crop of timothy, if the seed is not now sown. The best way to seed for that crop is to prepare the ground in August and sow as early in September as the rains will render the ground in good working order. Thorough plowing, rolling and harrowing are important. One peck of seed should be sown to the acre, though most farmers put one bushel to eight acres,—that quantity of seed should never be applied to more than six acres. If sufficient seed is not sown to cover the ground weeds will come in, greatly to the injury of what grass does come up. You can sow your timothy seed with oats or other Spring grain—this is practiced by many who call themselves good farmers—but the young grass is liable to be killled out by the hot sun and the exhaustion of the moisture by the luxuriance of the grain. In seeding in this way, prepare your gound early and well; sow your grain first and then cast your timothy seed upon the fresh harrowed ground; if your ground is light, it will need no further covering, but if it is very heavy, a light brush may be run over it. Seed sown at this time will not give a crop of hay until the second season following. When sown in the fall, if the season is favorable, a good crop may be expected the coming season.

The Hungarian grass (millet) promises to afford a good substitute for timothy. This may be sown the coming spring, and produce a large crop of hay the same seasen.

The Japan Pea.

MESSRS. EDITORS:—In the spring of 1856 a friend gave me about a gill of seeds of this plant, and understanding from him that it was not a trailing plant but a standing bush, of pretty robust growth, I proceeded to plant in rows about four feet apart, dropping the seeds fifteen or twenty inches apart in the rows, three in a place, which proved to be the proper distance according to my judgment. The seeds came up very universally, there being but one blank in the patch. The plants grew off vigorously and rapidly, although the season was very dry and unfavorable to the growth of plants. They continued to flourish and even seemed to luxuriate through the drouth of that season. The crop occupied 144 square yards and produced six gallons of peas. Last spring I planted in a similar manner a piece of ground containing 1575 square yards, which produced a crop of seven and one-half bushels, which exceeded the crop of the previous year at the rate of about three bushels per acre, although the drouth of the last season was more severe and protracted than that of the previous season.—My opinion of this pea is that it is a very valua

ble acquisition to our agricultural productions, principally on account of its capacity to sustain itself through a protracted drouth. Its broad, expansive leaves render it capable of imbibing a large amount of moisture and nourishment from the atmosphere. As there is considerable diversity of opinion respecting the edible qualities of the Japan pea, I will state that the whole of my family, together with all persons (with one exception) who have eaten them at my table pronounce them superior to all other pulse, and I apprehend that the reason why many persons dislike them, is on account of improper or imperfect cooking; for they require to be cooked much longer than other pulse. All kinds of graminiverous animals, and all kinds of fowls eat them with avidity; but whether they possess fattening qualities equal to corn or other cereals, has yet to be tried. J. S.

POMONA, ST. CHARLES CO., MO.

[For the Valley Farmer.]

Protect your Lands from Washing.

If there is anything discouraging or annoying to an agriculturist, it is the washing away of the cream of his soil and the defacing of his finely prepared fields, cut up into a thousand rills and gullies, in which you might bury wagon and horses. This seems to be a peculiar property of most lands in North America, which may be owing to three causes; first, the immense quantity of rain that pours down in torrents, having no time to soak into the ground by degrees; secondly, to a deficient quantity of aluminous matter in the soil, and too much of the silicious, which does not adhere; thirdly, to the quantity of vegetable matter contained in new soils, and which adds greatly to their porosity. Singular, that you may travel over the whole of Europe and never find anything corresponding to our washing soils, certainly not in the sense that we know it in America; not even upon the steeps and long continued declivites of vineyards and mountain districts, where grain is frequently raised on precipitous slopes without loss of soil. This difference constitutes the most remarkable feature between European and American culture. With us, the slightest decline sets the soil in motion until the surface grounds of whole settlements and States wash away in less than a generation's time, wherever the soil is undulating, unless guarded against by very prudent management.

Any hilly soil, when once put into cultivation, can easily be secured thereafter from washing into the Mexican gulf, by speedily sowing it down into grass or clover, for pasture and meadow grounds, which should be kept so forever, inviolate, as you value your lands; no other system of cultivation can ever secure your best soils. It may be asserted that more lands in the West are ruined by washing than by all the bad farming together. Miles in extent are constantly forming below the mouths of the Mississippi, made up of the cream of Western lands run down the river. Foster timber and grass to grow on all your hill sides. These make the best pastures, especially for sheep.—Raise your corn and grain on your level lands; plow under your straw, manure and corn stalks deeply, and you will add constantly to your wealth. Plant willows along and in every ravine and gulley, already formed, and throw in brush and rubbish to fill up again, for above all, save the cream of all you possess—your soil. E. M.

St. Louis Co., Mo.

[For the Valley Farmer.]

Competent Judges at our Fairs.

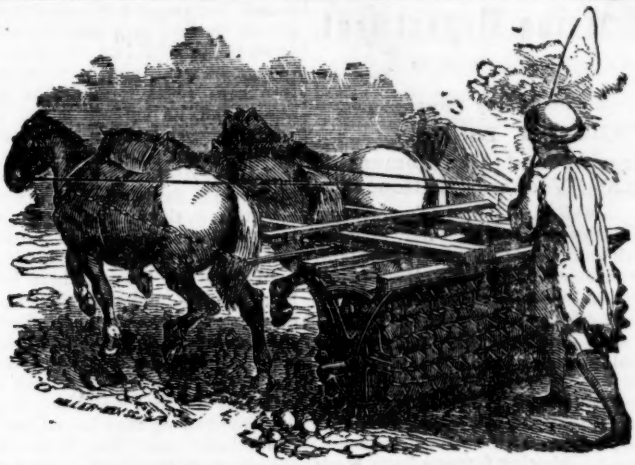
MESSRS. EDITORS:—Knowing you to be the friends of the farmer and mechanic, I would offer, through your excellent journal, a few suggestions in regard to appointing judges to decide upon the merits and demerits of machinery entered for premiums at our fairs. Would it not be much better and give more general satisfaction, if an equal number of mechanics and farmers were appointed to judge all mechanical work that farmers have to use, at our next exhibition of the Farmers' and Mechanics' Fair in St. Louis County. I would suggest three farmers, two mechanics that work in iron, and one in wood, (or in that proportion, be it more or less), be appointed, and that they be notified of their appointment, and that those that do not choose to serve let it be known to the appointing power, so that others could be appointed in their places before the day upon which their services were needed. The farmer we well know, can use all the mechanical implements made for farming purposes to great advantage, if they are well made, and his practical use of farming implements enables him to see a fault, but his knowledge of mechanism does not always enable him to remedy it, while the mechanic's would, and the combined judgment of the two together would give more geneal satisfaction upon such machinery, than the farmers alone could possibly do.

The mechanical ingenuity of the United States as well as Europe has surpassed every imagination of our sires fifty years ago, and still onward is the cry. The man who is so fortunate as to get the seal of the judges on his machinery at our fairs, is well paid (with a Diploma), and as there are hundreds, yea thousands, studying and working for the high prize in machinery as well as in many other arts and sciences, then, in God's name let competent and practical men be appointed to judge their work, and by all means let the deserving one have the prize. By a little blundering or carelessness, or not knowing, there might be, and often is, great injustice done in awarding these prizes.

The mechanic's machinery is certainly the second foundation on which the farmer builds his hopes—(Mother earth being first) for the staff of life, both for himself and the mechanic, as well as the rest of mankind. Let us all, then, endeavor to keep up the spirits of the mechanic, and he will yet show us greater wonders than we have yet seen or thought of.

OLLY WILLIAMS.

St. Louis County, Mo.



CROSSKILL'S CLOD CRUSHER.

In our February number we gave a cut of a field roller and description of several forms of them. There is still another form which we promised to illustrate and describe in our present number. It is Crosskill's English Clod Roller, invented by Edmund Crosskill, an extensive manufacturer of agricultural machines, in London, Eng., one of which he had on exhibition, with other machines of his manufacture, at the World's Fair, Crystal Palace, New York. Some of these machines, years before, had been made at Geneva, New York, and Baltimore, Maryland.

This roller is made on the same general plan of the iron roller described in our last number, with this difference: It is composed of a considerable number of cast iron shell-like sections, four inches thick, with the outer circumference somewhat scallop-shaped and pointed; each section is four inches long or in thickness, and revolves independent of the others on the main shaft, in the same manner as the sections of the iron roller described.

On certain heavy, clay soils, or on most tenacious soils, this implement when once introduced, would almost be regarded as indispensable by good farmers. Before the quite general introduction of the grain drill, the most marked beneficial results were found to follow the use of this roller in seeding wheat or other small grain. It not only divides and perfectly pulverizes the soil, reducing the most stubborn clods to powder, but it leaves the soil full of small inequalities, just so large as to prevent the washing and waste of the soil, which at the same time prevents the close, smooth packing of the surface, so favorable to the destructive action of the frost upon the winter grain.

In seeding hemp, it is peculiarly adapted to leaving the surface most favorable to the developement of the young plants.

Farmers who wish to be up with the improvements of the age and cultivate to the greatest profit, should at once supply themselves with at least one of the kinds of rollers we have described.

CARDOONS.

A subscriber, (M. L. W.,) requests us to inform him what is cardoon, remarking that the Patent office is distributing various kinds of seeds, the manner of cultivating and the use of which many who receive them know nothing about, and among them is the cardoon.

Reply.—Cardoon—*Cynara Cardunculus.*—The cardoon is a kind of artichoke, a native of Candia, is much cultivated in Europe for culinary purposes, such as for salads, stews, &c.

The stem of the leaves being thick and crisp are the eatable parts, after being blanched.—They are in perfection in Autumn and Winter.

The seed may be sown in a bed of rich earth in the month of April; when the plants are up strong, they should be thinned so as to leave them four or five inches apart, to prevent them from becoming weak. They may be transplanted in June, in squares four feet distant each way; observe, before planting, to aim their tops and roots the same as celery. As they advance in growth, they are to be earthed up for blanching keeping the leaves close together; this may be done with strings of bass matting, as practiced with endive; they are afterwards to be earthed up gradually from time to time, until whitened to a sufficient height, as winter approaches. Cardoons must be taken up and laid away like celery, or they may be preserved with sand in a cellar.

Stock Raising Department.

(Written for the Valley Farmer.)

PREMIUM ESSAY

On the Rearing and Management of Sheep for Wool and Mutton.

Sheep have always acted an important part in agricultural economy, and have only assumed the highest estimate, when a country has attained its greatest developement. We all need to be clothed as well as fed, and they are the only animals which offer to perform both these services for us. In Europen countries it is found as population becomes dense, sheep keep increasing, in a considerable degree, displacing cattle. The demands of a community are in the direction of their wants. The farmer is guided by the profits.

Suppose two neighboring farmers have lands equal in extent, and each have an amount of food, capable of sustaining 50 head of cattle, of ages from calves to three years old, or 250 sheep, of ages from lambs to three years old—about the proportion--the cattle keeper has just his three year olds to sell annually; the sheep keeper has his three year olds to sell too, as well as some lambs he does not need, and besides he has a fleece of wool from every sheep he has got, or about $300 worth of wool. A steer is kept till three years old and yields nothing till sold. A sheep clips about 50 per cent of his whole value every year. The large per centage of increase and of wool, got from a flock of sheep combine to make them the safest stock to give regular profits during a period of years, presuming always adaptation of place.

Sheep are constitutionally of a costive habit of body, hence the short, sweet herbage of dry lands suit them best, and if rolling, so much the better, as they incline to lie on a high point at night. The luxuriant, soft grass, of damp lands does not suit them, as it relaxes the bowels too much, and affects the liver, and is the only cause I know of what is commonly, or rather properly called rot. Annually there are large numbers of sheep fattened on the banks of the river Nile, but they are immediately killed, being unfit to keep. In consequence of their active disposition it is important to have a large breadth of pasture in proportion to the flock, but if the range is large, and flock also large, they will divide themselves into small companies, which also favor their thriving.

In selecting a breed of sheep for use, strict regard must be had to whether the flock is to be large or small, pasture rich or otherwise, proximity to market, and so on. The large Cotswold and Leicester breeds are well suited for small flocks, provided with abundant food, easy got, and will always be valuable to provide rams for making one cross upon the smaller breeds of ewes, to obtain lambs for the butchers' market.

Where the flock is intended to be large, and pasture not so plenty, market distant, a good variety of the Merinos, I believe the best. Their wool is not only one-third more valuable per pound, but pound for pound it is proven to be grown cheaper than coarse wool. The Southdown is no doubt an excellent mutton sheep, though its wool is not so valuable. It has more lean meat to its weight, than the long wooled kinds, and its carcass in the London market commands about two cents per pound more, though here it will not do so at present. Where there is proximity to a large butcher's market, purchasing, say Merino, or other moderate priced ewes, in the fall, and putting Cotswold or Leicester rams to them for a crop of lambs to sell to the butcher, then fattening the ewes off, is likely to pay best. Where lands are distant from market, and a regular fixed stock is kept, breeding becomes more a science and business. In such cases, it is well to remember that a stock will grow up or down in size, so as to adapt themselves to the quantity and quality of food afforded, and that it is much better they should have to grow up than be obliged to go down.—In the latter case, both shape and constitution are apt to be sacrificed, so that if rams—which are the cheap and potent means of improving flocks—have well rounded, good shapes, it is not indispensable that they should be highly pampered and large.

Again, it is of the first importance to have a fixed stock, pure of its kind. Once begin to cross two pure breeds on one another, and it will require fifteen years constant use of pure rams, on the product, to return to reasonable purity. All crosses beyond the first are uncertain and to be avoided. Notwithstanding, crossing by the constant use of pure rams, is now largely practised on the Scottish mountains, with very good results, on account of their peculiar circumstances, which do not exist here.

A certain age should be determined on, to turn off ewes and wethers, say six years for the former, and 3 years for the latter. Then every fall before the rams are put to use, the flock should be examined, and every profitless animal, whatever its age, sent away; and though the sheep gets two new front teeth when it completes its first year, and the same number each year till its mouth is full, and till which time its age can be told, yet it is well to have a certain ear mark, entered in a book, put on when they are lambs, and the date of this will always show which ear mark has to go.

The rams should be kept by themseves from at least the first of August, in a well fenced field, in good plight, and as the ewe goes twenty one weeks with young, calculation can be made, when the lambs are wanted to come in spring. It is seldom prudent to have them come before grass. The ewe will come in season for the ram every two weeks. Therefore they ought to be separated at the end of five weeks. The rams will be reduced a good deal, and will need good feeding during winter. They may be put to forty or fifty ewes, according to their age or vigor after their first year. But with favoring circumstances they may get with lamb about double that number.

Lambs should be separated from the mothers not later than the middle of August for the benefit of both—the former put to fresh pasture, at a proper distance, separate to wean. Of course

a sufficient number of the *best* lambs must be kept to replace those turned off, and some over that to allow for death, and the ewe lambs not put to the ram the first year.

Breeding in-and-in is said in some cases to have suited, but it is at best doubtful. Certainly change ought to be made so as not to breed to their own progeny. Taking sheep as all other animals, to a great change of climate, is a risk, and will need some time to acclimate. Everywhere they should get such shelter in winter as will keep them dry. Dampness is very unfavorable to them. Cold does not seem to injure them as their temperature is naturally low and their covering good.

What kind of winter food sheep should receive, will always be determined, partly by climate, locality and convenience of production.—Of the different kinds of hay, clover is perhaps the best of all, but any kind of good hay cut while in bloom will do, or even good straw with some grain, or still better, oil cake meal. The latter is favorable to health given with fodder, and is generally cheap enough when got with little expense of carriage from the mill. A moderate supply of roots, and running during the day on blue grass, little pastured in summer, or a rye field, are very desirable, because sheep delight in something green with water and salt at pleasure.

It ought to be unecessary to tell any man who is keeping a flock, that they must be kept in a thriving, improving condition, if pay is expected, and that they are simply a living manufactory to convert the food given, into mutton and wool, and further that a certain amount is required to sustain life, and it is only what is given over that, which can result in increase.

There are various little arts and experiences in working along a flock, such as in lambing and other times, which he that would learn must acquire in the field or yard in actual practice with the animals, which cannot be conveyed in writing.

One good shepherd can tend 1000 sheep and render considerable assistance in preparing the winter food.

In conclusion, I will venture an opinion that there are countless acres in the West of third quality, rolling, cheap lands, very suitable for sheep raising, and that some of the spare enterprise, of Young America, might be profitably exercised in this direction. Robt. Gibson.

Dry Dock Farm, near Louisville, Ky.

ANOTHER PROLIFIC SOW.

A subscriber in Wabash county, Ill., thinks he he has outdone any he has heard of yet in raising pigs from a single sow.

He has a sow of the Berkshire breed, eleven years old which has raised 17 litters of pigs.—The least number at a time has been five; the average number seven. She has produced 119 pigs. The pigs have averaged a weight of 225 pounds each, (at what age we are not informed,) which makes 25,775 lbs. of pork, which at $5,00 per hundred amounts to the handsome sum of $1,338 75.

Cattle Dying from Eating Corn Stalks that Hogs have Chewed---Reply by the Editor of the Southern Planter.

It will be remembered by our readers that in the December number of the *Valley Farmer* we copied from the *Southern Planter*, the account of Mr. Effinger's cattle dying from the cause stated in the caption, together with the remarks of the editor, whom we requested to give us the cause. The following is his reply, with other things:

"We cannot answer the question. But we know the fact, and we have given instances in the *Planter* in which the experiment was tried on cattle, one at a time with a fatal result. The disease, commonly called *mad itch*, is not due solely to corn stalks previously masticated, but has been known to occur in a cow eating pea vines, who died, not of simple *hoven* as might be supposed but with the peculiar symptoms of *mad itch*. Food then, of a very high degree of succulence, may, but rarely does produce it.—Nor does it seem due to the dryness of the material taken into the stomach, (or rumen, the seat of the disease,) for dry straw and stalks, which many cattle live on all winter, are not known to produce it. Possibly, though it is unphilosophical to guess, the disease is one of a very high degree of inflammation of the rumen; the fibre of the corn stalk whose pith has been thoroughly broken down, and its juice extracted by mastication, presenting a number of irritating points as sharp as so many splinters, to the coats of this organ, may so irritate them as to produce at once acute disease with attendant indigestion. We have had an opportunity on several occasions to see a similar state of things on cutting open cattle that have died of *red water*, (or bilious fever?) In such cases, where death has occurred prior to a diarrhea, the contents of the paunch have always been exhibited in a compact dry mass; and there has been a high degree of inflammation of their receptacle. Sheep, we have been told, are sometimes affected in the same way, when fed on hard, dry forage, such as over-ripe timothy hay, which has been known to pierce through all the coats of their paunch.

"Cannot the *Valley Farmer* persuade some of its grazing friends to sacrifice a scrub to science next fall, and have a regular physician to make a *post mortem*?

"We warrant the scrub dies."

Cooking Food for Horses.—In connection with the foregoing, our friend of the *Planter* remarks, and asks the following question:

"On the principle of 'one good turn,' &c., will the *Valley Farmer*, whose judicious remarks on cooking food for hogs we have read, tell the public something about steamed corn for horses and mules? Mr. Hedges advises it, and he is, no doubt, a very honest man, but he may be unconsciously like the shoemaker, who said there was nothing like leather for a fortification. English experiments are rather against cooking food for horses, but to steam whole corn, shelled or on the

cob, is a problem that may have elements, not embraced in those they assume to solve."

We will endeavor to reply to the question of our worthy cotemporary, and which we should have done in our last number, but from long continued and severe illness under which we have labored. But first, a word on the subject of cattle dying from eating corn stalks, &c. We have no doubt that the injury in these cases arises solely from the mechanical condition of the stalks, after having been acted upon by the hogs. The stalks are left there a dry, tough mass of woody fiber, and when taken into the stomach of the animal, unconnected with other food, their consistence is such that the gastric juice cannot dissolve them, and digestion cannot go on, hence inflammation and death must necessarily follow.

On the subject of cooking food for horses, we do not regard it so essential as for hogs and milch cows, or cattle in general. The stomach of the horse is small and compact, and he is fed with more care and uniformity as to quantity, than is the case with most other animals, and most kinds of food usually fed to him are generally quite thoroughly digested. The English experiments in cooking food for horses have been confined mostly to entirely different kinds of food from those usually fed to American horses. If the grain that is fed to horses be first well ground and incorporated with cut hay or straw, thoroughly soaked or wet, we do not believe that it would be improved by cooking. With the hog, the case is different. The object is only to make flesh, and he will eat and keep his stomach constantly loaded with corn, if he has free access to it. The corn being so concentrated, and the stomach so constantly filled that a large portion of it passes off undigested. By cooking the corn, either whole or ground, for hogs, the bulk is increased several fold, and in this expanded state it is still sufficiently nutritious to produce flesh as rapidly and more so, than when eaten dry; besides, when cooked, it digests more easily and more thoroughly, and hence a less quantity will suffice in the prepared state than when uncooked. This we conceive to be the difference betwen the horse and the hog. But with the custom which prevails too generally among American farmers, particularly in the South and West, in feeding corn to horses in the ear, we consider the case different.

On this point we have had some experience. Many years ago we discovered, in feeding corn to our work horses, after it had become thoroughly dry in the crib, that their teeth would frequently become sore and they would eat their corn with difficulty. To obviate this, we procured two sixty gallon casks, which we filled with the ears of corn and water, and while we were feeding from one, the other was getting soft and was fed in turn. In hot weather, in three or four days it would be soft and swelled almost as if it had been boiled. We found great benefit in feeding the corn after this preparation; the horses not only ate it with greater ease and relish, but they ate every particle of the cob. From several season's experience in this way we became convinced that if corn must be fed to horses in the ear, it would be better to cook it, not only on the point of economy, but for the actual benefit of the horses. Yet we think a better and cheaper plan, with farmers who can command the conveniences of grinding, that that would be preferable.

We presume if the English farmers had made their experiments on corn in this form they would have come to a different conclusion from that which they formed after cooking beans, peas, carrots and the kinds of food usually fed to horses in that country.

Why do Cows Give so Little Milk in Winter?

Eds. Valley Farmer:—To the thinking man the reason is very obvious. The wonder is that cows give any milk, when treated as they are. I have traveled considerably this winter, and have not seen one instance in a hundred, where cows have been properly sheltered from the storms, or properly fed. Could the dairymen at the east make fortunes in a few years, as most of them do, if they gave their cows no better attention than the Western farmer does?—Shelter is indispensable in our Western climate. Stock can endure cold better than our rain storms. See them during the rain, shivering in the mud, in the corners of fences, endeavoring to protect themselves from the blast. If the farmer would make good butter and cheese, and enough of it to pay him for his trouble, he must provide comfortable shelter, feed with food that is nutritious, select the best cows, and take care of them in the best manner. By doing so he can make the dairy the most profitable branch of farming. Because we take such poor care of our cows, we are compelled to get all of our cheese, and the most of our butter from the east. Eastern farmers are growing rich from our neglect of our stock.

Brother farmers, let us resolve that this shall be the last year that our stock shall go unprotected. Let us make good barns, good stables, or shelter of some kind, and then provide for them, during the summer, good food for winter—keep them in good order—feed them regularly—supply them with water, and it will give us better feelings, and be to our pecuniary benefit.

Rustic.

Coles Co., Ill., Feb. 15, 1858.

[Written for the Valley Farmer.]

FEEDING HOGS.

EDITORS OF THE VALLEY FARMER:—I perceive that my short and imperfect article in your November number, on the comparative economy of fattening hogs by turning them in the field, on corn, and grinding and cooking the corn for them, has had the good effect of drawing from you a very able reply in your issue for December. Your arguments and figures are certainly very plausible, but you must excuse me for not being convinced by them. Your calculations are all based on the experiments instituted by Mr. Samuel H. Clay, of Kentucky, which I am inclined to believe would have produced very different results had they been differently conducted. (*a*) Mr. Clay says that his hogs on dry corn gained only "five pounds ten ounces," in one instance, and "six pounds ten ounces" in the other, to the bushel; he must have fed them very sparingly. Mr. Watkins a very intelligent farmer of this county, put up two common hogs, weighing less than 200 pounds gross, and fed them dry corn *with his own hands*, and they made an average gain of eleven pounds and a quarter to the bushel. This is but little below the average yield attained by Mr. Clay in his trial with cooked corn or mush. In making your estimates by which you make it appear that there is a "saving of $11 25 in feeding one hundred bushels of corn" cooked into mush, against an equal quantity fed dry, you only take into consideration the cost of the labor of one hand at $1 25 per day, which is alone required to steam and feed the mush to the hogs. You leave out entirely the cost of gathering the corn which is worth 5 cents per bush. shelling and carrying to the mill 5 cents more, and the grinding which we cannot get done for less than 10 cts. Add this necessary, and additional expense of 20 cents per bushel, to the hundred bushels of meal, and you have $20 00 *in expenses*, to be offset by $11 25 *in savings*. (*b*) This is not all the expense necessarily incurred in feeding mush to hogs, you must be prepared with floored pens, steamer, vats, troughs, &c., which you estimate to cost "$1000." On this outlay there must be an interest of at least 20 per cent calculated, because the fixtures exposed to the destructive propensities of hogs will not last more than five years. I think the summing up of the difference between turning hogs in on the corn in the field, against feeding them cooked meal, would be about this: Every bushel of corn fed in the field worth 25 cents will make ten pounds of pork, worth at 4 cents per pound 40 cents; (*c*) profit on the corn 15 cents per bushel. Every bushel of corn, worth 25 cents, when ground and made into mush costs 46 cents, which will make 14 pounds of pork, worth at 4 cents per pound, 56 cents; profit on the corn 10 cents per bushel. The cooked meal account must also be charged 20 per cent on $1000, the cost of fixtures, while the turning on the field plan, must be credited by 10 per cent of the value of the corn which will be returned to the land in the form of manure. You ask triumphantly, "is it not cheaper to cook 100 bushels of corn, than it is to raise 50 bushels?" I answer yes, to cook it in the ears, but if in the form of meal, I say emphatically, no. (*e.*) We can cultivate an acre of land that will yield 50 bushels for $9 00, and cannot gather, shell, haul, grind and cook 100 bushels for less than $20,00.

The limits of this paper will not allow me to enter into a discussion of the comparative anatomy and physiological difference between swine and human beings, but it is sufficiently striking to arrest the attention of the most casual observer. The most economical method of fattening hogs is what I have been trying to ascertain for a number of years; it is a business in which I have been engaged ever since I became a farmer, and if after *fair* experiments I am convinced that your plan is cheapest and best, I shall certainly embrace it. My object is to arrive at facts, which we can accomplish in no other way than by free interchange of opinions, and well conducted experiments.

Very respectfully your obedient servant,

B. A. RIVES.

Ray County, Mo., Dec. 1857.

REMARKS:—We are glad to find that what we have said upon the importance of a better preparation of food for stock is attracting the attention of farmers, and if we can provoke a number of them to go into well conducted and thorough experiments in feeding hogs and cattle, we are of the opinion that it would be the means of converting them to our views on the subject.—We will take the occasion to reply to a few points in Mr. Rives' communication in which we think we shall show that he has somewhat missed his calculation.

(*a*) One word in regard to Mr. Clay and his hogs. We visited Mr. Clay's place once or twice during the progress of the experiment.—That the whole trial was faithfully conducted, no one that is acquainted with Mr. Clay, will for a moment doubt; his object was chiefly to satisfy himself of the value of cooking the food. That the same results would follow in every instance, we have some doubt. Mr. Clay's stock of hogs were of superior quality and such as are seldom met with, for besides being one of the best and most careful breeders in the country, he has taken unusual pains to improve his stock, and in this effort he has been remarkably successful.

(*b*) Our correspondent seems entirely to overlook the terms upon which we based our calculations. We assumed that to be successful in this method of feeding, perfect and well arranged fixtures must be provided. With the exception of what corn the hogs can eat from the stalks in the field from the time it is old enough until the close of the season, it will require to be gathered, and the cost will be no greater in one instance than in the other. The shelling

and carrying to mill, for which our correspondent charges 15 cents per bushel, is another item which we do not admit in our account; for, with one of the ordinary crushers like the *Little Giant*, the shelling and grinding is accomplished at one job and this may easily be done by the same man who cooks and feeds the hogs, and at most, an additional hand is not required but a portion of the time, if at all, so that we are not willing to admit the validity of our friend's charge of $20.

(*c*) Nor are we willing to admit that one bushel of corn consumed in the field by the hogs will make ten pounds of pork during the entire period of fattening. This may be true for a short time when they are first turned in, while the weather is warm and the grain soft, but quite different will be the result, which we know from personal experience, after the corn has become hard and the weather cold. Hogs can be much better protected from the cold when fed upon the plan we have proposed than when suffered to range the cornfield exposed to the chilling winds and the mud.

(*d*) Ten per cent for wear and tear will cover all cost for steamer and other fixtures, if made substantial and taken care of as they should be.

(*e*) Our correspondent admits what we assume that 100 bushels of corn can be cooked in the ear cheaper than 50 bushels can be grown, and we are equally sure, with the addition of the extra hand, we have charged in the case of of cooking the corn in this form that the same labor will grind and cook it with only the additional cost of a mill, say $40 00.

To settle the point satisfactorily to all parties, we hope Mr. Rives and others may be induced to test the question by careful experiment, entering upon the work entirely unprejudiced and give the world the result. To do this no costly fixtures need be procured, but the cooking may be done in the simplest manner; this will test the advantages, if any, of cooking, and the cost and capacity of more extensive and complete works may be regarded as a simple matter of calculation clearly ascertained.

CURE FOR FOUNDER.

EDS. VALLEY FARMER.—I saw in a late number of your journal a cure for founder. I will give you a remedy for a bad case of founder, which I have tried, and known to be tried, and always with success. I consider it much more safe, especially for a bad case, than the remedy recommended by your correspondent. My remedy is as follows:

Bleed copiously, say take away one gallon of blood; then give one heaping table spoonful of pulverized alum; then bathe the fore legs with hot water twice a day, and if the horse is not better in 24 hours, repeat the alum. I have never failed in having my horse cured and at work within 24 hours after this treatment.

BENJ. F. GRIFFITH.

Marion Co., Mo.

Thumps in Swine.

MESSRS. EDITORS:—In the winter of 1852 and '53, I lost forty to fifty shoats with the thumps, and I now have some laboring under the same disease. One of my near neighbors has lost ten or twelve head since the 1st of January, and two of my remote neighbors have lost, each from thirty to forty head since the beginning of the present winter.

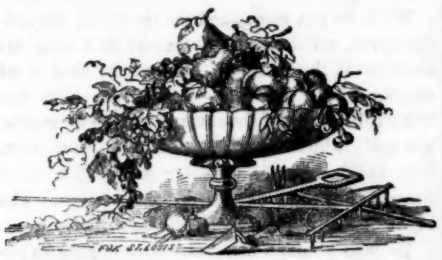
Some say sleeping in the dust and others say, sleeping in straw is the cause of it. But I attribute it to the rotton corn, from the fact that we had more rotten corn in 1852 than ever before or since, till the present time. I have heard that bleeding in the mouth will cure them. I have seen some few get well from a drench of 2 oz. ground sulphur in a gill of whiskey given through a cow's horn. But I think seven out of every ten that have it die, no matter what you do for them.

Now Sirs, if you or some of your correspondents will give us a cure through the *Valley Farmer*, it will be thankfully received by one, and no doubt by many of your subscribers.

Mullin Hill, Jan. 20. J. K. W.

REPLY:—In a late number of the *Cotton Planter*, a correspondent gives the following as a sure remedy. He says:—"I have frequently had cases of thumps among my hogs. My remedy is to tar the corn which they eat, which I have never known to fail to effect a cure if taken in time. My manner of preparing the food is simply to have a bucket of tar at my feeding ground, tarring each ear of corn as I throw it to them. If this plan is commenced soon after Christmas, and continued one or two months, my experience is, that few, if any hogs will have the thumps."

SALT AND CHARCOAL FOR SHEEP.—It is generally conceded that wet pastures are unfavorable to the health of sheep. I have kept a flock for four years in a pasture of this description—for the first two years with unfavorable results. My sheep were unhealthy, and many of them died. I ascribe it to the wetness of my pasture. Upon the recommendation of an old farmer, I gave them charcoal, mixed with salt. The beneficial effects of the mixture were soon apparent. My sheep presented a more healthy appearance. I have continued the treatment and the animals have continued to thrive. I suppose the medical qualities of this mixture consists in the disinfecting property of the charcoal. And in the invaluable and alterative properties of the salt.



Horticultural Department.

PLANTING TREES.

The remarkably mild winter just past has been extremely favorable for planting trees and we hope many of the farmers of the West have availed themselves of the opportunity thus afforded them. But the tendency with them is too much to delay this work till spring when every thing else is pressing, when it is turned off with less care and labor than the importance and value of good fruit should demand. Labor can be bestowed on no work to better profit than in the proper preparation of the soil and the planting of fruit trees. A dry or drained soil is absolutely necessary; holes of good size and well filled with rich mold is important to insure a good growth. The heads of the trees should be well thinned and the remaining branches shortened to correspond with the reduced condition of the root; cultivation should be continued through the season and for several seasons, as thoroughly as for any other crop; none is more important. Corn and small grain should never be allowed to grow in a young orchard; small crops such as beans, potatoes, cabbages, &c., may be cultivated among the trees to advantage.

Those who have not yet planted their trees should prepare to get about it without delay and observe the remarks we have made. Shade and ornamental trees should also command a share of the attention of every rural resident. In a few years groups of the various native trees, interspersed with an occasional evergreen will be objects of beauty that the owner would not part with for fifty times their cost. To have the full enjoyment of these, no time should be lost in planting them, and no pains spared in cultivating and taking care of them.

Every tree planted about the homestead, adds many times more than its cost to the cash value of the estate, besides the constant pleasure it imparts to the owner.

Don't neglect to plant the trees.

ORNAMENTAL SHRUBS.

What would our lawns and gardens be without shrubs? As spring is at hand, and many persons have asked our advice in regard to the the choice of these indispensable appendages to the home of taste, we take this opportunity to recommend some of our favorites.

It is hardly necessary to present the claims of these established favorites, the lilac, the althea, the dwarf double-flowering almond, the Japan quince, the syringa, &c. They have spoken for themselves, and the eye demands its music from them as much as the ear demands the songs of the blue bird, the robin, the martin and the red bird. What would spring be without the bloom of the dwarf almond and the Japan quince about the house? Almost as well ask what Spring would be without the songs of the blue bird and the robin. No new comer will ever supplant these old favorites. Sorry should we be if they could do so. We are sometimes in danger of becoming excited when we hear one speak slightingly of the althea, for instance.—No, old friends,

"Blistered be the tongue would hurt ye."

He who would give up the Japan quince, (*pyrus Japonica*, or Japan pear, as it is sometimes called, though it is no pear at all,) "fairies fire," as it is called in England, deserves to have no fairies in his house or in his imagination. What a glorious hedge this plant would make! Pity that it cannot be more rapidly propagated. Cuttings, to succeed, must generally have a portion of the root attached. We have, however, succeeded in striking cuttings in a hot bed. The best way, we think, to make a hedge of the Japan quince is to place the plants three or four feet apart, and fill up the vacancies by layering. Some time would be required to form a hedge, it is true, but could any thing so beautiful be formed in a shorter time? Such a hedge row, in full bloom, would indeed form a scene of fairy splendor, and nothing but a fairy could pass through it.

Speaking of hedges, reminds us of the pyracantha, or fiery thorn. This beautiful evergreen shrub, whose bright, red berries have caused the French to call it *buisson ardent*, burning bush, has not been planted so generally as it deserves to be. In the last agricultural report of the patent office, the Rev. James Curley, of Georgetown, states that it forms an excellent hedge. A hedge formed of this plant on the grounds of Georgetown College has stood twenty-six years. A hedge may be formed by planting cuttings twelve inches apart, and will an-

swer the purposes of a fence in the fifth year.

Among the most beautiful of the plants introduced within the last few years is the Forsythia Viridissima, or "golden bell," as some have proposed to call it. This is one of the plants for which we are indebted to that indefatigable collector, Mr. Fortune. It is said to be a great favorite with the Chinese, and it deserves to be so. It grows from five to eight feet high. Early in spring it is covered with bright yellow flowers, forming a beautiful contrast with the bloom of the Japan quince.

Another beautiful plant introduced from China by Mr. Fortune is the *Weigela Rosea*. Almost every one who sees it in bloom pronounces it the most beautiful of all shrubs. When in bloom, it is one mass of beauty. The flowers vary in color from deep pink to almost white. The flowers become of a deeper color as they grow older. This plant is easily propagated from cuttings.

Another plant of the same genus, the *Weigela Amabilis*, has flowers very like those of the Weigela Rosea, but it has this advantage that it blooms in the fall as well as in the spring.

The mention of these plants reminds us of the Spirea family, some of which were introduced by Mr. Fortune. It is hard to find plants more beautiful than some of the spireas. The double flowering *Spirea Prunifolia*, covered with its pure white buttons, would make one stop to look at it if he were running from an Indian. And it is a difficult matter to decide between this and the *Spirea Reevesii*.

> "We could be contented with either,
> Were the other dear charmer away."

Then we have *Spirea Callosa* and *Spirea Grandiflora* with pink flowers, and lovely flowers they are.

The upright honeysuckles, too, should be planted by every one. They are beautiful in flower and fruit.

But we had almost forgotten an especial favorite of ours, the lovely *Deutzia Gracilis*, with its masses of white flowers, pure as innocence itself. What can be more charming? We pause for a reply. And don't reply till you have seen it.

What could have made us think just now of the double-flowering peach? We suppose because we were thinking of white flowers; for there is a white variety, as well as a pink and a crimson. These three varieties planted together would make a gorgeous sight in the spring. The double-flowering apple and the double-flowering cherry, too, deserve their place.

We have not mentioned the snowball, the calycanthus, which are so necessary that they almost plant themselves. As we have spoken of the snowball, however, we will mention two beautiful plants of the same genus, (*Viburnum*) the early white viburnum, and the black haw. The black haw we consider one of the most beautiful of our shrubs or small trees. The sight of one in full bloom *fills* us with spring.

He who plants a beautiful shrub plants an enjoyment for himself and many others. Every year it will come as a messenger of beauty to present to him its lovely flowers and foliage.

HARDY APPLE TREES FOR THE WEST.

The two or three last winters have been productive of great injury to many varieties of fruit trees in the West. We have had frequent calls for lists of such kinds of apples as experience has found to be most hardy. In making a list with this object in view, it must be done, in some instances at the sacrifice of some choice varieties and some inferior sorts will require to be named that might be excluded, if all kinds were known to be sufficiently hardy for any particular location. In a dry soil and upon a high situation the list might be materially changed for the better, but upon the flat, moist prairies, in the more northern sections of the West, where frost has been found to be injurious, F. K. Phoenix, of Bloomington, Illinois, formerly of Wisconsin, one of the most experienced and intelligent fruit growers gives the following as a list of hardy apples.

Summer.—Carolina June, Early Red, Sweet June, Red Astrachan, Sops of Wine, Benoni, Summer Pearmain.

Autumn.—Autumn Strawberry, Dyer, Fall Orange, Gabriel, Haskell Sweet, Northern Sweet, Duchess of Oldenburg, St. Lawrence.

Winter.—Yellow Bellflower, Carthouse, Grindstone, Limbertwig, White Winter Pearmain, Roman stem, Seek-no-further, Tallman Sweet, Wine Sap, Monstrous Pippin, English Golden Russett, Willowtwig, Winter Sweet, Paradise, Campfield Sweet.

FINE APPLES.—We are indebted to George Husman, Herman, Mo., for some very eatable apples, for which he has our thanks. The following varieties were among those sent, viz: Newtown Pippin, Michael Henry Pippin, Long Green or Lemon Pippin, Priestly, Rawle's Janet, Red Russett, &c. Mr. Husman is a reliable Nurseryman and fruit grower, and is doing a large and profitable business.

Fig. 8.

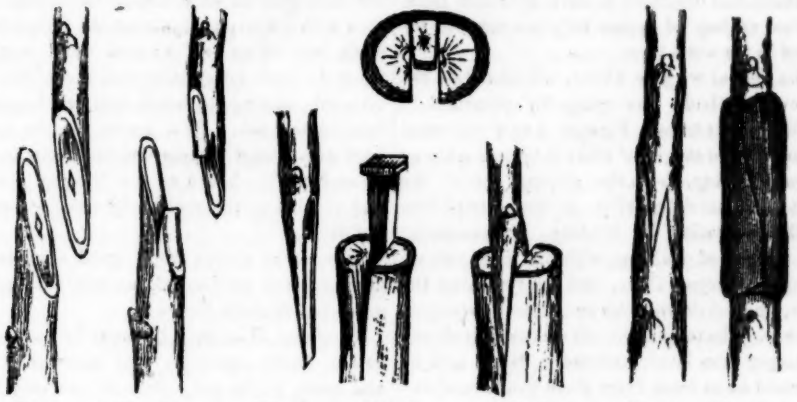


Fig. 1. Fig. 2. Fig. 6. Fig. 5. Fig. 7. Fig. 3. Fig. 4.

GRAFTING.

In the early settlement of the country fruit trees were generally propagated from seed.—But trees propagated in this way, from kinds however good, gave no assurance that the seedling trees would produce fruit with the good qualities possessed by the parent. New varieties are thus produced, but generally, where one seedling tree produced fruit, equal or superior to its parent, many would prove inferior, and frequently they are so degenerated that they are worthless. In order to obviate this difficulty, and to propagate those kinds only that are worthy of cultivation, grafting and budding are resorted to. Grafting was understood by the ancients.—Fifty or more different methods were practised by the Romans. But since the demand for fruit trees in this country calls for them by thousands, but two different modes of grafting are generally practised, and these are such as can be performed with the greatest facility.

The most common method of grafting apple trees now practised by extensive nurserymen is to sow the apple seed either in the fall or spring. The seedlings, on good land and properly cultivated, will by fall, be large enough to graft.—These are taken up and packed in the cellar and the business of grafting is carried on all thro' the winter. The grafts are packed in boxes, mixed and covered with moss, pulverized rotten wood or light earth, and placed in the cellar until the season of setting out arrives in the spring. Roots, grafted in this way, are cut into two or more pieces according to their size and length, each piece forming a root for an individual tree.

If the graft is set in the stock or root, so that the sap may flow upwards without interruption, and that which is elaborated by the swelling bud and leaves may flow freely downwards thro' the inner bark, the union is surely and readily formed. In order to secure this, certain requsiets are to be regarded, the *first* of which is, that the operation be performed with a sharp knife, so that the parts may be cut smoothly, without mutilating the pores or sap vessels, and the two parts be brought into immediate and even contact. *Secondly*, that the parts be so brought together that a permanent and considerable pressure be applied to keep the parts in their proper places. *Thirdly*, that the union of the inner bark and the wood, both of the graft and the root be brought together, so as to exactly correspond. Where the graft and the stock are not of the same size this union must be secured on one side. With a correct knowledge of the requisites for grafting, a little practice will soon make one perfect in the operation.

Formerly, the stocks, at one year old, were set in the nursery rows and cultivated one year, and then grafted at the surface of the ground. It is contended by some that trees propagated in this way are better and longer lived than those that are "root grafted." Our experience does not enable us to answer this question. This last is a more tedious and expensive operation and can only be done in the spring of the year, when other operations are pressing. In some nurseries stocks are set in the way we have mentioned and budded in the fall at a comparatively more leisure time.

Another method of grafting is extensively practised in seedling orchards by removing the large limbs and inserting grafts in their stumps

or where it is desirable to have specimen fruit. A great variety of apples or pears may be inserted in the same tree.

The figures we give above, will illustrate the various methods now generally practised in grafting fruit trees. Figures 1 to 4 represent the successive stages of what is termed *whip or tongue grafting*, from the sloping cut of the graft and stock or root to the completion of the operation by binding. In practising this method of grafting, with one clean cut we make the proper slope, and by reversing the knife, one cut downwards completes the tongue. In making the tongue the cut downwards should be deeper than is represented in figs. 2 and 3; it should be at least from three quarters to one inch deep. This increased depth adds greatly to the strength of the parts united. Figs. 5, 6, 7 and 8 represent the respective parts of what is termed cleft grafting, such as is usually employed in stocks planted in the ground, and in renewing the heads of old trees. Fig. 5 represents the stock, opened with a wedge, ready to receive the graft; fig. 6 represents the wedge shape of the graft to be inserted, and fig. 7 illustrates the graft in its place after the wedge has been withdrawn. It is only large stocks that require to be opened by a wedge. Nursery stocks are always grafted while they are so small that the graft itself will open the cleft; fig. 8 shows a cross section of the cleft graft. It will be seen that the graft is cut thicker on the outside than on the inside, in order that the points of union at the bark may fit the more firmly.

In fig. 4 the band is represented. Our method of binding is somewhat different, and may be performed with great expedition. It being original with us we will describe it for the benefit of the trade.

Take a piece of board with a planed surface, a yard long and nine or ten inches wide; draw a line with a pencil the entire length *four* inches from one edge, and draw another line *four* inches from the first; these indicate the length of the bands. Along the edge of the board and along each line lay on with a brush a strip of grafting wax one inch wide. For making the bands, provide common cotton cambric, worth 7 or 8 cents per yard; draw the end of the cloth even with the second line made on the board, and stretch the cloth and press it on to the wax, so that it will adhere, and cut off the piece with a knife, even with the edge of the board; then apply a coat of grafting wax one inch wide along the two edges of the cloth and one inch wide on each side of the middle line; then with a sharp knife across the board cut the cloth into strips half an inch wide, and then draw the knife lengthwise over the middle pencil mark, cutting the bands into two lengths of four inches each. By a gentle fire the wax is kept at a proper temper and the bands may be taken from the board as the binding proceeds and applied to the grafts with the greatest facility.

Where the stocks are of good size and the grafting well performed we never found any great benefit from binding.

Grafting Wax may be made by melting together about equal parts of beeswax, tallow, and rosin, or the proportion of wax may be reduced for the sake of economy and the rosin and tallow supplied in proportions that will give the proper temper to work readily and adhere well.

RASPBERRIES.

A correspondent in forwarding his subscription requests us to say something on the different varieties of Raspberries and requests us to give a list for general cultivation in the latitude of Clark county, Mo. He further enquires if we know anything of the Allen Raspberry, &c.

We will remark in reply, that the Antwerp is the chief market berry of New York; is found among the most profitable sorts, but it requires to be covered for winter protection. But the Brinckle's Orange we think will prove equal or superior to it. It is found perfectly hardy even in Iowa, and isincluded in a list of hardy fruits that succeed well there. The common Red and Black are most commonly cultivated in the West. The red is a productive variety and superior to the black. For general cultivation we would recommend Brinckle's Orange and the variety recommended by Mr. Allen, to which he has given his name. We are familiar with the variety and know its history as far as it is known. It was found in a garden near Buffalo, by Mr. Allen. The proprietor having died, Mr. A. purchased the entire lot and removed them to his grounds. It proved a hardy, productive, valuable variety, so much so that Mr. A. attempted to trace its origin. So far as can be ascertained it is supposed it was originally introduced from France by the original owner of the garden where it was found.

Another new variety called Kirtland's seedling is perfectly hardy, productive and worthy of a place in Western gardens.

A WORD FOR EVERGREENS.

Nothing adds more beauty to the landscape, the lawn or the yard than a few well selected and well arranged evergreen trees, and yet these beautiful ornaments are greatly neglected by the American people. Our country abounds with many varieties of the finest evergreens, which the nurserymen have under cultivation, and in a condition suitable for transplanting. As summer dies and the deciduous trees bare their branches to meet the approaching winter, casting a dreary aspect over the landscape, nothing can add more to the beauty and cheerfulness of the homestead at this season than a variety of evergreens judiciously arranged about the premises. Besides the picturesque and lovely appearance they afford they serve a double purpose in defending the house and grounds from the cold winds, and driving storms that sweep pitilessly over the unprotected prairies and other exposed parts of the country. Well grown belts of evergreens—pines and firs, have in their congregated strength, a power of shelter and protection that no inexperienced person can well appreciate.

In England the parks and pleasure grounds abound in the most beautiful specimens of evergreens, without which, in their murky climate, universal gloom in winter would rest upon the country.

When properly understood, the transplanting of evergreens may be as safely performed as any of the hardy deciduous trees. When taken directly from the forest this is not strictly the case, but after having been under the care of the nurserymen and been transplanted several times the roots become compact and fibrous and there is no difficulty in their removal, provided the roots are not allowed to become dry. All resinous trees require great precaution in this respect. We have removed many with hardly the loss of one in a thousand.

As we are addressing ourselves to beginners, or those who have hitherto neglected this branch of arboriculture, we will mention a few of the best and most hardy evergreens that are within the reach of almost every one, that is, they may be ordered from nurseries on any of the ordinary routes of transportation within 1,000 miles with perfect safety. Among the most hardy are the *hemlock*, the *white pine*, the *Norway spruce* and the *balsam fir*.

The Hemlock we consider beyond all question the most graceful and beautiful evergreen tree that this country affords and it should have a place in every yard and lawn.

The White Pine is one of the most beautiful, symmetrical and uniform growing trees of the pine family. It is adapted to a great variety of soils and situations and should never be omitted in a collection of ornamental trees.

The Norway Spruce is deservedly one of the most popular evergreens cultivated in this country. It is a beautiful ornament to the lawn at any size; in its youth nothing can present a more beautiful and varied appearance from the time it begins to shoot its first leaves, to their full maturity, and when the tree has arrived at the height of thirty or forty feet it fills a no less interesting place in the landscape. It adapts itself to every variety of soil from light sand or dry gravel, to deep, moist loam or clay. It will also flourish under the shade of other trees, or in the most exposed situations.

The Balsam Fir, or as some call it the *Balm of Gilead*, is a neat, erect, handsome evergreen, but is better adapted to small yards and gardens than the others we have named. It is most beautiful while small, or within fifteen feet high. It is extremely hardy and the rich, deep green of its foliage renders it a desirable variety in every place.

Among the common evergreens is the red cedar, accessible almost everywhere. This tree, if it can be found in open ground may be removed from its wild state with more certainty of success than any of the family of evergreens.

The American Arbor Vitæ is valuable for hedges and screens. No plant will bear the shears better. It may be cut and trained in almost any form, and when set in the form of a screen, its sides, by repeated clippings, may be rendered as fair and upright as a wall, and so dense that a bird can hardly enter it. This is also quite a desirable ornamental tree, when set singly. The Chinese Arbor Vitæ, while young, is the handsomest of the two, but it is affected both by the heat and the cold, and its beauty is not long lived, except in Southern latitudes.

We might name a variety of other evergreens worthy of notice, but these must suffice for the present.

Unlike deciduous trees, evergreens should be set without pruning. No branches should be removed unless to preserve symmetry of form, or from injury received in removal. The same care in planting should be observed as in planting other trees. Evergreens may be planted any time from the present to the putting out of new leaves. A good mulching of old straw or leaves would tend to insure success.

The Vegetable Garden.

(Written for the Valley Farmer.)

CALENDAR OF OPERATIONS FOR MARCH.

RIDGING.

In all soils (not sandy) ridging is a beneficial operation, and in very close, retentive loams, and especially clay soils, it is of vast utility.—This differs from plain digging or trenching, and is done by taking a strip of ground three spades wide, and one deep—laying the spit of two, side by side, before you, and the third one on the top, thus forming an angular or conical ridge. This may be done in the fall, or in any mild, open weather during winter. The frost will penetrate through and through these ridges, and separate the particles, and soften and mellow down even the most obstinate of clay soils. The ridges will be dry and friable early, and may then be forked over and levelled down. Some rotted manure may at this time be worked in, if desired, and it will be ready for seed much earlier than if it had been dug level, or not at all, till wanted.

Let your first sowings be of those very hardy kinds that are wanted to come into use first, and take advantage of the earliest opportunity for this, that is, as regards the state of the soil.—Such crops are peas, turnips, spinach, &c. A small patch of turnip blood beets and early horn carrots, may be sown—main crops later—though the main crops of onions, parsnips, salsify may follow in quick succession.

Adopt the drill system of seeding throughout. The crops cannot be economically worked and kept clean without. From twelve to fifteen inches apart will do for all the above root crops. A good way to sow peas is in drills, four or five feet apart, and a row of radish, lettuce or spinach may be sown between them.

Have some regard to the rotation of your crops. Thus, if your garden is divided into strips or squares, the root crops may be placed together into one compartment, and the fibrous rooted in another, dividing them again according to their natural alliances, and let each family or group go the rounds of the garden in successive years.

We must surmise you have your hot-bed at work preparing cabbage, tomatoes, egg plants, for planting out. Give plenty of air this month especially to cabbage, lettuce, &c., which should be well hardened off towards the end of the month, ready for the first favorable opportunity for planting out. Dig up roughly all vacant ground intended for late crops.

FRUIT GARDEN AND ORCHARD.

All pruning should be got through with early this month. Thin out the wood of large apple trees, that have got overcrowded, by taking off the smaller limbs that branch out from the main branches. Thin out and "shorten-in" young peach trees. Stake and tie up the raspberries, leaving four to six of the strongest of last years canes, for fruiting this year. Remove all the rest. Do not neglect to trim your currant bushes; no fruit requires it more than this, nor none repays better the labor bestowed. Take out all dead wood, and thin out the weakest shoots, if too numerous. Cut back the laterals to two or three eyes, to make fruiting spurs, and shorten the young shoots at least one-half. Grapes bear best on strong canes of last years growth; select the best of them and cut out the old, and weak young wood; shorten the laterals to one eye. Those who have hitherto neglected to plant fruit trees should do so no longer. The planting season having arrived again, every one should be determind not to let it pass without some effort to have fruit. Plant if it be but a dozen trees. But do it well.—Plant some round your dwelling; they will serve for shade, ornament and use. Prepare the ground for them at least as well as you would for a crop of potatoes, and let the after culture be equal to that you give your corn, and if you have selected good varieties in their season, and otherwise managed them well, they will succeed well with no better treatment than that. They often get much worse.

FLOWER GARDEN AND SHRUBBERY.

The ornamental should receive some attention in the arrangement of the farmer's garden.—Beds and borders should be placed around and near the house, and a plat of grass in front and a few groups of shrubs and ornamental trees should by all means be secured. The most appropriate place for all this is in the approach to the house from the road. A few acres might easily be devoted to this purpose by most farmers. It might be kept mown for hay, but cattle should not run in it, as they will browse the trees and shrubs. Much pleasure may be derived from a piece of ground like this, without relinquishing profit. After you have planted all the commoner kinds of shrubs you should procure plants of the following most beautiful species: Of Spireas, the Revesii, Prunifolia and Collosa, Deutzia Gracilis, Wiegelia Rosea, Dwarf flowering almonds, &c. These with the Lilacs, Syringas, Altheas, &c., will form quite a nice collection of hardy flowering shrubs. A dozen or two of the Hybrid Perpetual and garden roses, must not be omitted, nor among the trees must a few evergreens be forgotten. Single plants scattered here and there, at other places in groups of twos and threes. The Norway Spruce, White Scotch and Austrian pine, and Balsam and the Larch, (deciduous,) would give variety and add greatly to the charm and interest of the place, especially as they grew up.

This month, all the kinds of hardy herbaceous perennials may be divided and planted, and on these, principally, must the farmer's garden depend for its display of flowers, though not entirely so. A few dozen of verbenas, &c., should be afforded annually, and some of the choicer kinds of annuals, as Mignionette, Phlox Drummondi, and some others are indispensable. A list of annuals and tender bedding plants shall be given in due season, with some directions for culture. But this being the season for perennials to be attended to, I give a list of some of the best kinds of them. The most suitable place

for this class of plants is a border. The tallest (some of them grow four or five feet,) should be placed at the back and the lowest along the front. They may be planted at considerable distances apart, and dahlias, asters, amaranthus, Immortelles, and numerous other things may be planted in the vacant spaces, according to their respective height and color, and thus the border may be kept gay during the entire season. The herbaceous perennials are the easiest of culture of any flowers, and many are very showy and beautiful. They require no other care than being kept free from weeds and taken up and divided once in three or four years. A list of some of the best would comprise the following: Aconitums, (Monkshood,) several varieties, blue and white; Achillea Millefolia, (Milfoil,) white and pink; Anterhinm or snapdragon, curious and beautiful; Anemone Japonica, Aquilegia or Columbine, scarlet, white purple; Capanula or bellflower, numerous species, all pretty blue and white; Sweet William, various colors, sweet and handsome; Digitalis or Foxglove, purple and white varieties, Dictannus Fraxinella, red flowers, fragrant and pretty; Dodecatheon Media, (American cowslip;) Dielytra Spectabilis, one of the finest and best of all herbaceous plants, recently introduced from China; Delphinim or Larkspur, very showy, flowers mostly blue; Iris, the Fleur de Lis, hardy, easily grown plants, showy flowers; Peonies, a splendi t tribe of plants,with very large flowers, of brilliant colors; Phlox, this is the most important family of all, and the best for this country; Potentilla, valuable for late or autumn blooming; Spirea or Meadow Sweet, mostly white, very pretty; Vaerian; Veronica; Lilly of the Valley; Hibiscus's Day Lilly; the White and Tiger Lilly and Crown Imperial, all belong to this interesting and beautiful class of plants.

C. Sanders.

St. Louis, Mo.

[For the Valley Farmer.]

CELERY—ITS CULTURE.

Celery can be grown so as to be fit for the table by the month of August Its early production is not so much required as its later, principally because its best season of use, (through the winter,) is at a time when all other salads are out of season. I shall endeavor to give the best methods of culture, for the general crop for winter use.

For this purpose the seed may be sown from the beginning to the middle of April, either in a cold frame or an open border. If in the former do not elevate it but place it on the level ground. In either case the ground should be well broken and pulverized, and tolerably rich. As the seed takes some time to germinate, care should be taken to preserve a moist surface. This the frame assists in doing, by preventing the winds from drying the soil—but the sash may slope to the north, or be very slightly covered with litter, till the plants are up, or a border, partly shaded by a wall or a building will answer.—The seed in this bed may be either sown thinly broadcast, or in drills, six inches apart, drawn by the finger or hoe handle. When the young plants have got four or five leaves, undoubtedly the best plan is to transplant them at once into another bed. The ground for this should be good, rich mould, and if you mix in with the top soil some old, leafy, decomposed manure, and prick the plants out in rows three or four inches apart, they will send out their fibrous roots into it and remove the next time with a ball of earth as big as a man's fist.

The celery, like many other plants, sends down from the seed a straight tap root, which is broken when first removed and the roots spread. If the plants are allowed to get a good size before they are removed at all, they must be reduced at the top by taking off the extremities of the leaves, so as to balance their meagre roots, for they will only have this tap root and a few fibres; they will also require much watering to start them anew in this state. This bed should receive good sprinklings of water a few times till the plants get established, and if the weather is very dry an occasional good soaking afterwards.

By the beginning of July the plants will have attained sufficient size to plant out in their permanent trenches. This plant, being a native of low, moist situations, it is in such, that it succeeds best. A deep, rich, damp soil it revels in. If you have a damp (not wet) situation, with good soil, select it. It is most common to manure direct in the trenches for this crop, but if your ground is in good heart, by previous manuring, it is probably best not to manure afresh, as it doubtless has a tendency to cause it to speck and rust from our hot dry sun. Use well rotted yard manure, if any. Prepare your trenches by stretching a line and digging out the soil a spade deep, and a foot or eighteen inches wide. Lay the soil taken out, evenly on either side and form a little ridge. Then if you manure, scatter it along in the trench, and dig and mix it up well with the soil; spade deep in the trench, scatter along another inch or two of soil on the top; make it smooth and level and it is ready for planting. Choose a showery day, if you can, for this operation, or a wet, damp spell, because we often get a few days cloudy, dull weather at such a time, and your plants might get a fresh hold in the soil and be no more trouble as to watering. Take up the plants with a trowel or handfork, retaining as much soil as the roots will hold, and plant a single or double row along each trench about six inches apart each way.

Give each row a good soaking as soon as planted. With this treatment they will need no shading, but if the weather should prove dry, a thorough good soaking should be given them twice a week. It is a good plan to have a reserve of plants in case your first planting should fail; indeed successive plantings may be made, till near the end of August, if desirable.

After the plants have grown considerably, and after the weather begins to get cooler, earthing up may be done. Do not begin too soon, however, as they will not keep so well in the winter, if blanched too early. A dry sunny afternoon is the best time to do this. Prepare for it by going along the rows and pulling off the lower

broken stalks and offsets. Make the soil on each side fine and nice, and earth up about three inches, taking care to grasp the leaves of each plant in the hand, and to press the earth close around them, thus bringing the leaves all up together in an upright position. This earthing of the plants must be continued at intervals of a week or ten days, as the celery advances in growth, and until it ceases.

Just before severe weather sets in the stalks may be taken up and laid in for the winter. A raised bed or bank, with a slope that the stalks may be laid against, close together without touching, and covered all over with soil, and a coat of leaves or straw over all, will keep them in good condition all winter.

The stalks of celery should be blanched white and when cut through they should be solid and crisp. C. Sanders.

St. Louis Fruit Garden, Feb. 25.

[For the Valley Farmer.]

CULTURE OF FLOWERS.

Messrs Editors:—To redeem my promise I now take pen in hand to jot down something for the edification if not knowledge of your numerous readers. What subject shall I choose? you mostly design seeking matter suitable for the sturdy farmer. I cannot speak learnedly on waving fields of grain, of fat and lean cattle, or anything connected with his time honored avocation. Aye now I have it! I can speak of flowers. Why should not farmers cultivate flowers, or at any rate his wife and daughters? Therefore I will not quit my favorite theme. I shall not trouble you with dissertations on denisens of the hot-house but come to our every day flowers that grow and blow each flitting summer in spite of the trying ordeal of passing through a northern winter, such flowers, many of them, as our forefathers were wont to decorate their "gardynge" with, associated with others of more modern introduction, but equally capable of withstanding the icy embrace of winter. It shall be then, of

Hardy Border Flowers. Suppose some of them are old; will their inflorescence be less gay, or their odor less exhilerating? By no means. We have flowers now that far surpass those of other days, and all by the aid of those who love them. Let us not lightly slight the beautiful old kinds, then, in our hurry to bedeck the garden with their more brilliant neighbors, the verbena, geranium and other bedding plants.

These plants are emphatically the "Peoples;" they will do well with simple treatment, and need no expensive professional aid brought to bear upon them. They occupy the cottage and the palace garden alike, and are, many of them, as susceptible of great improvement, as those usually denominated "florist's flowers," such for instance as the pansy, the tulip &c.; give them a fair trial friends, they are worthy of it.

No arrangement suits hardy perennials, biennials and many annuals, so well as the mixed borders; here properly arranged as to height, color, time of flowering, &c., there is always a blaze of bloom from the time the modest little snow-drop ventures to unfold her snowy envelope to the native gentian, which usually closes the scene. What a fine border flower is the whole genus of phloxes, from the sweet, pretty vernal ones, to the last of the tall, or varieties of P. Decussata. But the dwarf kinds of P. Suffruticosa meet our idea exactly, besides, being every thing in shape and color of flower, they are sufficiently dwarf to stand near the outside of the border; in fact, make quite pretty beds alone. The charming phlox named after poor Drummond, who first discovered it, is at once the most varied and finest of all annuals, at least that is our humble opinion. Then again look at the Delphinium, or Larkspur tribe. What a richness is there in that old D'grandiflorum, a blue that no painter can surpass; besides many other equally beautiful kinds; and even one with scarlet flowers is now coming into vogue from California. Its name, if our memory serves us right, being D'Cogswelliana. If you want one of the richest flowers for part of a summer boquet, grow some of the Spireas or meadow sweets; there is nothing better for the center of a handful of summer flowers. A few of the Irises must not be forgotten. Any of them are pretty—many of them singularly so. *Lillium candidum*, the old white lily, L. Aurantica, the Turk's cap and tiger lily are all beautiful, nodding their heads in the breeze; besides numberless others we must not forget the *Hemerocallis*, or day lilly and the Tunkias; the last delight to unfold their leaves in partial shade. Peonies are a boquet in themselves of nearly every shade of color, flowering at various times during the summer, conspicuous at distant points, and worth looking at even near by.

We shall conclude with the more modern *Dielytra spectabilis*, a plant possesing a peony-like habit, (or rather perhaps, corydalis) from the northern districts of China, hence perfectly hardy, having flowers kind of heart-shaped; deep pink in color, and perfectly unique. The foliage of a healthy plant is drooping and quite pleasing.

Chicago, Ill. Edgar Sanders.

The Tomato---Its Properties.

Dr. Bennet, a professor of some celebrity, considers it an invaluable article of diet, and ascribes to it very important medical properties:

1. That the tomato is one of the most powerful aperients of the Materi Medica, and that in all those affections of the liver and organs where calomel is indicated; it is probably the most effective and least harmful remedial agent known to the profession.

2. That a chemical extract will be obtained from it which will altogether supercede the use of calomel in the cure of disease.

3. That he has successfully treated diarrœha with this article alone.

4. That when used as an article of diet, it is almost a sovereign remedy for dispepsia and indigestion.

5. That the citizens in ordinary should make use of it, either raw, cooked, or in the form of a catsup, with their daily food, as it is the most healthy article in the *materia a imenearia.*

The Home Circle.

HINTS TO HOUSEWIVES.

BY HETTIE HAYFIELD.

THE GARDEN.

The garden is a department of farm life, that may, with propriety, be assigned to either the husband or the wife, or it may serve as the common ground on which both may advantageously exercise their skill and taste. If proper facilities, including sufficient labor, are afforded, we cannot conceive a more healthful, useful or agreeable employment. It is a subject of regret, that a taste or at least an appreciation of the sanitary and economical value of fruits and garden products in general, does not more usually prevail in farming communities. A good orchard and well managed garden, seem necessary adjuncts to the respectability of a farm house, and in truth I think I should hardly be voted over romantic if I insisted on the propriety of some flowers in the surroundings. But stunted and unhealthy fruit trees, weedy and neglected gardens, I am sorry to say, are the rule, and not the exception in our great valley; and for a tasteful garden, carefully pruned, or well trained vines, we must go into the village or city suburbs. That a garden and orchard must be had, should be the fixed purpose of every new beginning of farming, but their locality size and character should be carefully considered. They may be kept roughly and yet be profitable but to be a pleasing feature about a farm house they require much and careful labor. Unless you mean to make marketing one of your resources, enclose well, just as much ground as will supply your family abundantly, under proper cultivation. Plant the best trees and seeds of proper varieties. A yard of well set blue grass, shaded with forest trees, with some well chosen shrubs, and vine and flower plats around the door, is seldom rivalled in beauty, even by the labors of a professional landscape gardener.—Orchards flank such a yard admirably, so if your means do not allow your garden to be well kept, abolish it. Enclose and cultivate a good truck patch, where plow and cultivator may do the work mainly, and let its abundant yield console you for the want of beauty. If you have a garden, convenience to yourself must be one ruling motive in the selection of the ground. A level spot and one sloping south or east is preferable; deep soil is desirable, but soil can be made with care anywhere. Enclose securely; a picket fence is the best protection against fowls, a close fence or wall on the north side, is very advantageous in procuring early vegetables. The shade and droppings from trees are so injurious to plants that no standard tree should be introduced into a garden, with the expectation of the ground under it being made useful. Rotation of crops, in a garden, should be carefully practiced, alternating those crops whose roots, and those of which the tops are the chief parts. The form in which a garden is laid out is a matter of tase. Walks level with the ground are best, but if taken down a little, a curb of plank, brick or blue grass is useful; to have them tanned or gravelled, saves much labor, though I have heard that there is among the numerous late improvements an implement of horse power that scrapes and rolls walks beautifully. If any part of your garden is to be cultivated with a plow, it is useless to put things on the border, that will not bear tramping. Strawberries show the injury less than anything I remember now.

Gardening books and almanacs are so common and accessible that I shall not descend to particular directions for each vegetable or fruit, but sum up under some general heads, facts that are usually scattered through such works, most of which I have gathered in the field of experience.

TO IMPROVE AND KEEP UP YOUR GARDEN SOIL.

Save up all your resources. You will be astonished at results. The litter from the stables and the poultry house, chamber slops, soapsuds, ashes, leaves, refuse salt, lime, all go to enrich the earth. They are sometimes thrown into a heap, under shelter, and incorporated with straw or leaves, until they are mixed or composted. I prefer to have each kind thrown at once in the square set apart to be benefitted by that specific manure, in which case some earth or straw should immediately cover the deposit. This plan enables one to compare the value of fertilizers and arrive at results. The garden should all be broken up in the fall roughly, that it may get the benefit of the frost. The ground intended for potatoes and other roots should have a heavy coat of straw or chaff, turned under in the fall plowing. If you have not manure enough for your whole garden that intended for late vegetables should be sown in rye, which being plowed under in early spring will improve and keep the ground moist.

IMPLEMENTS.

That your work may always be done at the right time it will be best to have a set of implements belonging strictly to the garden. A plow, cultivator, spade, shovel, rakes, dibble, drills, watering pots, &c., &c., all things you can find to facilitate work.

FORWARDING AND FORCING.

This is too expensive and troublesome on a scale large enough to be really useful, unless you have a professional gardener. If you live near such a character buy your plants for early use. If you do not there are rough home contrivances for forwarding that are worth the trouble. A large goods box with a lid of sloping glazed sash, surrounded by fresh stable manure, will bring forward a start of early plants. The box should be filled with 18 inches of fresh, well fermented horse stable manure, and six or eight inches of light clean mould spread on it. Attention in airing and watering the plants, will secure from a large sized box, enough cabbage, beet, lettuce, tomato and egg-plants, to supply quite a large garden. Two or three such boxes, or a frame for a hot bed twelve feet long, will furnish the plants above enumerated, a good supply of cucumber and melon plants and also a good many lettuces and radishes for the table and then be renewed to bring forward the sweet potatoes. The best plan for planting cucumbers, &c., in hot beds is to put the seed in an

inverted sod; they can then be moved without damage to the roots. Cold frames are prepared as hot beds, but have only boards and mats or old carpets to protect them. They do well for lettuce, radishes and other half hardy plants,

SMALL GARDEN FRUITS.

Herbs, asparagus, rhubarb, all things which might be called garden fixtures, should have that situation assigned to them, best adapted to their growth. They do well on borders, if well cultivated. Raspberries, gooseberries, currants, I have raised most abundantly in rows that admitted free plowing. I have finally discarded all varieties of the Raspberry, but the Red Antwerp, English Purple and native black variety. The last never fail, and by cultivation, improve wonderfully. I dress them with chip manure, or any good compost in the fall, break out the dead branches and shorten living ones to where they bend downwards, in the spring, and plow them. Gooseberries and currants I have set out and cultivated the same way, but simply cut out all but three old and three new branches. The red, white and black currant, and the Missouri gooseberry, I have found very productive under this system.

GRAPES.

I have not given the vineyard system a fair trial, but my neighbors around are successful, and the fact that a vine may be trained to every part of your garden fence, without shading the ground materially, recommends it to a trial.—There is so much of grace and beauty in the old free method that I incline much to give a vine the freedom of a south wall.

STRAWBERRIES

Are conveniently cultivated on borders, the stools being about six inches apart; a fresh bed every season, kept free of weeds and the runners not permitted to grow, will yield largely in size and quantity, but it renders the fruit an expensive luxury. I have had this fruit abundant and excellent on a simpler but ruder plan. I planted a square that lay well exposed to the sun, set thickly with a good neighborhood variety. In the spring I raked it clean and marked out paths a spade in width for the gatherers convenience. A wet season almost invariably occurs soon after the fruiting time. During this period with a heavy plow I had the bed plowed, leaving an alternate furrow of plants. It was then harrowed until well broken and level. This looked like perfect destruction, but the bed soon reset itself, and I lost my bed but once in fifteen years. The advantage is, that you have a new bed every year. If you keep the same bed many years it will be necessary to give the bed a dressing of compost, leaves or straw in the fall, which may be raked or burnt off in the spring.

ASPARAGUS AND RHUBARB.

Dig out a pit of any length about four feet wide and two and a half deep. Fill up one foot with bones or loose stones, for drainage. The next foot should be of well rotted stable manure, on this spread four inches of good mould. On this the plants should be placed about one foot apart, and then covered with six inches of mould. In the fall after the bed gets the benefit of the first frost, if should be covered with fresh stable manure, to the depth of half a foot. In the spring this should be *raked off the asparagus* and the bed be forked over. The manure may be simply spaded in around the rhubarb; it is a very gross feeder.

VINES.

Require free circulation of air sunshine and moisture. If your ground is not good, dig a hole as if you were going to set out a tree; fill it with good soil, or leaves, or an inverted blue grass sod; draw over it two or three inches of dirt; put in plenty of seed. When the plants come up sift over them some soot or sulphur, or cover them with hand glasses or boxes, with muslin lids to protect them from bugs. When they have made several leaves, thin them out to two or three plants in a hill.

Peas, beans, okra, pepper and the like, usually require but moderately rich soil, and to be kept clean. Such as need support should have it, firm and in time. It is a good plan to drive down stakes of the right height about ten feet apart in the rows; nail strips on the top of the stakes. To this strip lash the rod on which the vines run, and there will be no falling of vines and consequent waste of fruit.

Roots.—Potatoes, turnips, onions, &c., in our experience, depend more on the looseness, than the richness of the soil. For some years past we have used very deep furrows filled with straw or chaff, and lightly covered with earth, for all such vegetables. The straw retains moisture and has some nutritive matter in it, but we are satisfied that its mechanical influence on the soil is its chief merit. And though our readers may conclude we rely as much as the poor Hebrews in Egypt did upon *straw*, we cannot conclude without mentioning for our farming ladies benefit that we have seen German gardeners aronnd us use this article a great deal, and successfully in a way that would be very convenient to such as are prone to have our gardeners spirited away in harvest.

MULCHING.

This is simply covering the ground around newly set trees, or around vegetables that have had all needful work. The use is to keep the weeds from covering the ground and to retain what moisture the ground holds.

SPRING.

We greet with pleasure the coming of Spring, the time for sun and joy, for flowers and fair hopes. We trust it is Spring always in the homes of our fair readers, Spring in their hearts and Spring in their faces. Just now they may begin their preparations for summer, in their gardens, yards, pleasure grounds. Seeds must be got ready, ground put in order, shrubs trimmed, dug about and manured if they need, and all things made ready for an active spring and summer campaign.

Our nimble penned Hettie Hayfield, and other contributors have so crowded our columns this month with useful matter that our space for the ladies is less than we desired. We hope we shall do better by them hereafter.

The Young Folks' Page.

"WEARY NOT IN WELL DOING."

Children often get tired of doing the very things they ought to do. So do grown people. We all weary out too soon in our good works. In a good cause we should always keep up a stout heart. What is right to do, we should be glad to do and keep doing. Children at school often loll over their lessons, get lazy, dull sleepy. This is wrong—it is wearying in well-doing. They will never get knowledge or wisdom in this way. They will never be intelligent or great, or very useful, if they are such drones at study. To go to sleep in reading a good book or paper is a very bad sign. Wake up, all dull readers and dull scholars. You must be wide awake to get information and useful knowledge. When the body sleeps, the mind sleeps, generally. When the body is stupid or lazy, the mind is. Work on in good earnest at your books and papers, if you would be well informed.

Many a boy or girl wearies often at work, at useful work, at necessary work, at work which makes them wiser and better. This is wrong. "Weary not in well doing," is the injunction. When at work we should weary not in the sense of not getting lazy, dull, careless, slothful. We should be active and cheerful and do all we can. Be up and doing, is the way. Work as hard as you would play and with as brave a heart. Don't be a coward, afraid of work.—Don't be a drone, too lazy to work. Don't be a fool, too proud to work. Don't be a dunce, too stupid to work. Weary not in well working.

Many children get weary in doing good acts, in being kind, gentle, useful. This is wrong.—Kind words, gentle manners, useful deeds should always be pleasing to children. In assisting each other, in obeying and being good to their parents, in being useful and agreeable to the old, the sick, the infirm, is what makes children beloved. Let all the little folks take heed and weary not in well doing.

BE CLEAN.

Yes, be clean. What an uncomely thing is a dirty child! Hands begrimmed, face all smut, neck, ears, head, swarthy with dust well rubbed on! Such children we sometimes see. We hope our little readers are not of this stamp. Pigs are expected to be dirty, but children are expected to be clean. It makes them handsome, fresh, healthy, active and good. Clean children grow best, sleep best and have the best dispositions. I scarcely ever saw a dirty child that wasn't quarrelsome. Clean children are the smartest; they will be the truest men and women. Flowers are clean; all things beautiful are clean, why should not children be? See to it, my little folks, that you keep clean.—Wash well, hands, face, neck, arms, chest, feet, limbs, every morning. Wash hands and face before every meal. Wash always when you need it. Don't trouble your mothers with uncleanliness. Never give occasion for her to remind you of your hands or face or feet needing water. Attend to it yourself. So be careful of your clothes, boots and shoes, that they be kept clean. This is a beautiful trait of character in a child or youth. Cleanliness is always agreeable. People will love and respect you for being clean. Forget it not.

SNOW.

To-day the ground is sheeted over with a fleece of pure white snow. It fell last night as quietly as sleep comes to the eyelids of little children. Snow, what is it? It is not rain; it is not ice; it is not hail, and yet it is like them all. It will melt into water and therefore into ice. But what is it? It is frozen mist, frozen fog, or frozen steam. The clouds are fog ranged in belts and stretched high up in the atmosphere. Fog is fine particles of water floating in the atmosphere. When they rise up high in the air, and become very cold, they condense or run together and form drops of water and fall down in rain. Sometimes they freeze before they run together. Then they fall in snow, so light, so soft, so cold. Sometimes they freeze after they have run together into drops; then they fall as hail. In cold climates there is much snow, covering the earth several feet deep. In such climates it keeps the ground warm; preserves the roots of plants and trees from intense cold, and so is very useful. Sometimes it blows into drifts, filling up large hollows and all the crevices of rocks, to a very great depth. In some northern regions the snow is red. Dr. Kane saw red snow in his Greenland journey. If my little readers wish to know more about snow and ice and cold they must read Dr. Kane's Arctic expedition. Snow protects wheat and grass during long winters wherever it lays on the ground. It has its uses, cold as it is.

Editor's Table.

Spring Wheat.

Mr. C F. Spencer, near Platte City, Mo., writes to us making some inquiries respecting Spring Wheat. He states that the farmers of that section have sown spring wheat, but with poor success, and wishes some information as to the method of sowing, &c.

Spring wheat should be sown as early in the spring as the ground is in good working order. The same preparation is required as for oats, that is, the ground should be well plowed and harrowed. One and a half bushels of seed to the acre, is the usual quantity, but two bushels would no doubt be better. There are several varieties of spring wheat, some of which, as a general thing, do remarkably well in Iowa and Wisconsin, and we see no reason why the same varieties should not do well with our correspondent. The varieties known as the Canada Club and Fife, are usually sown in the States named above. In low, wet land the Fife is said to do better than most other kinds, having a strong stem, it is not so liable to fall. There are the China, or Tea, and the Black Sea varieties, both of which also do well in certain localities. As far north as the location of our corecspondent, we can see no reason why some of these varieties should not do well, though of the peculiar characteristics of his soil he does not inform us. Early sowing is indispensable, so that it may get well rooted before it is forced into joint by the warm weather. The period for the earliest sowing of oats is late enough to secure the best crop of spring wheat.

Mr. Spencer's letter came too late to be published in full in our first form, and we reply now as fully as our space will admit.

St. Louis Agricultural and Mechanical Association.—The next annual fair of this Association will commence on Monday, Sept. 6th, and continue one week. The most extensive preparations are being made to render it the greatest exhibition of the kind ever held in the United States. The most magnificent premiums will be offered, which will bring out competitors from all parts of the country. Next month we will give full particulars of the arrangements.

Meeting of the U. S. Agricultural Society.—The sixth Annual Meeting of the National Agricultural Society convened on Wednesday, the 13th of January, in the Smithsonian Institute in the City of Washington. Delegates were present representing twenty-one States and two Territories, and the District of Columbia. Col. Wilder delivered his annual address. Some important discussions were held on the subject of steam plowing, the manufacture of sugar from the Chinese sugar cane, &c. After which an election of officers was held. Col. Wilder declining the use of his name as a candidate for a continuance of the Presidency, Gen. T. Tilghman, of Maryland, was elected President. All the other officers of the society were re-elected. It is not yet fully determined where the next annual exhibition of the Society will be held. Chicago having made application for it, it is probable that that point may be finally determined upon.

Our Lectures in Illinois.—We have just returned from a very pleasant lecturing tour in Illinois. Everywhere we met warm friends and were treated with the greatest possible kindness. The country through which we passed is nowhere surpassed in its fertility of soil, or its adaptation to farming purposes. Many of the farmers are enterprising—up with the times, but many, also, plod along in the old way, feeling but little interest in that progressive spirit of agriculture which is now beginning to be felt throughout the country.

For the many kind courtesies extended to us, we return to one and all our sincere thanks.

Field Trial of Reapers and Mowers by the United States Agricultural Society at Syracuse, N. Y., July 13, 14, 15, 16, 17, 18, 19 and 20, 1857.—We are indebted to the Hon. Marshall P. Wilder for a copy of this Report. It is a pamphlet of about 90 pages, and indicates a great degree of labor and ability on the part of the judges, and particularly of the chairman, Mr. John Stanton Gould, of Henderson, N. Y., in the arrangement of numerous tables illustrating the comparative merits of the various machines on trial, in separate and distinct points, in every possible particular, making it easy for the purchaser to determine at a glance the advantage one machine has over another in each single point, the whole finally being summed up, indicating by numbers the total merit of each machine.

As this report cannot be obtained by the mass of farmers who may desire to purchase machines, we will, in our next number publish a kind of Analysis of the comparative merits of the several machines offered for sale in our western markets. It was the object of the trial to arrive at these facts for the benefit of the farmer and we shall feel free to extend all the light we can on the subject for their benefit, regardless of the interests of the manufacturers of any particular machine.

Essays on Rearing, Management of Sheep, &c.—We received a number of Essays on the above subject, all of which were handed over to a competent Committee, with instructions to select the best essay. The committee were not unanimous, but the article which appears in the present number from Mr. Gibson, of Ky., having received the sanction of a majority of the committee, we publish it. We have also concluded to publish one or two of the essays put in competion with it, as they are interesting and valuable, and merit publication.

Singular Disease of a Cow.—"Subscriber," who writes from Harrison county, Mo., describing the singular disease of his cow, is informed that we know of no recorded disease similar to that which he describes. It is evidently an unusual case which it would be difficult for us to account for, unless we know more of the circumstances of feed, pasture, or facts connected with her immediately previous to her attack. The remedy, as to quantity, was a severe one, though in this instance it proved effectual.

We must beg the indulgence of our correspondents. A number of valuable communications have been received, some of which are already in type, but our columns are so crowded that we cannot give them a place in this number.

FRUITS AND FRUIT TREES OF AMERICA, BY A. J. DOWNING; REVISED AND CORRECTED BY CHARLES DOWNING.—We are indebted to the editor for a copy of the revised edition of this most valuable standard work. We presume no one will deny that Charles Downing is one of the best, if not THE best Pomologist in the United States, that no one has given the subject more careful attention for more than a quarter of a century than he has, hence we know of no one so well qualified to revise and correct the best work on American fruits that has ever been given to the public. The work formerly contained about 600 pages, it is now extended to over 800 pages.

In his preface to the revised edition the editor says:—"No alteration has been made in the general principles of cultivation and preparation, and but little in the descriptions of those varieties that are retained, but some, after repeated trial, have proved unworthy of general cultivation, have been reduced and put in a class of inferior sorts; some of which, however, have advocates, and succeed in particular soils and localities."

The additional space in this work is occupied with descriptions of a large number of new fruits that have been introduced from abroad, and brought into notice at home from the increased labor and attention the subject has received in every portion of the United States since the original date of the work; so that Mr. Downing has now furnished a work on fruits of inestimable value, and at a time too, when it is most needed. Among the varieties are many that are claimed as Western fruits, rendering the work of still greater value to the Western fruit grower. Prompted by no motive of pecuniary interest, this has been with Mr. Downing a labor of love, and for which the public are largely indebted. Altho' greatly increased in size, the book is still, we believe, sold at the original price. Published by Wiley & Halstead, No. 351 Broadway, New York, and for sale by book sellers generally.

TRANSACTIONS OF THE OHIO POMOLOGICAL SOCIETY.—Our thanks are due to M. B. Bateham, Esq., Secretary, and an unknown friend, for copies of the transactions of this Society, at its eighth session, held at Cincinnati, Sept. 14th to 17th, 1857. We shall avail ourselves of some important facts furnished by the society on the culture of fruits, and lay them before our readers in a future number.

THE KENTUCKY STATE AGRICULTURAL SOCIETY.—The Legislature of Kentucky, by a close vote, has passed the bill continuing for two years the appropriation of $5,000 per annum for the aid of the State Agricultural Society.

At a meeting of the Board of Managers, held at Frankfort on the 11th of February, it was determined that the next fair of the society should be held at Louisville, on the grounds of the South-western Agricultural and Mechanical Association, and to commence on the 5th of October next.

We hope the officers of the State Society will retain the control of its own affairs, and not suffer others, by a selfish and narrow policy, to defeat its ends, to the dissatisfaction of visitors and the disgrace of the city and State, as was the case at the fair of the United State Agricultural exhibition held there last fall.

WYANDOTT CORN.—We have received a circular from Mr. J. C. Thompson, Tompkinsville, Staten Island, N. Y., setting forth in the most extravagant terms this long since exploded humbug. "THE GREATEST AGRICULTURAL WONDER OF THE AGE. Product 125 to 150 bushels per acre," &c. Sold at the moderate sum of $1 per quart.

Mr. Thompson has evidently sent his circular to the wrong quarter. The farmers in this vicinity were done for, two years ago to the amount of $5,000, although we cautioned them against being SOLD, and exposed the worthlessness of the variety; but the extravagant statements made public, backed up with a score or more certificates, setting forth the prolific character of this new vegetable wonder, together with the fact of a set of unprincipled and swindling venders induced thousands to pay exorbitant prices for a few grains, but it proved an entire failure; for in the deep, rich soil and under the genial sun of Kentucky, it did not fully mature, and now the article is almost entirely unknown among us. Mr. Thompson must seek a market among the "green ones" of some other region.

GRASS AND FORAGE PLANTS.—A. O. Moore, Agricultural book publisher, has sent us a copy of this valuable work on grasses, by Charles L. Flint, A. M., of which an extended notice appeared in the Valley Farmer, a few months since. Also a copy of "A Treatise on the Artificial Propagation of Fish," by Dr. Garlick, of Cleveland, Ohio, a notice of which we have also given. The publisher will send by mail, post paid, to any person ordering these works, the first at $1.25, and the latter at $1. They are also for sale by A. Gunter, Louisville, Ky., and J. M. Crawford, and L. Bushnell, St. Louis, Mo.

AN OLD WORK ON THE ORCHARD AND GARDEN.—We are indebted to Robert Pearsall Smith, Publisher of the Horticulturist, Philadelphia, Pa., for a copy of a book entitled "A new Orchard and Garden," &c., printed in 1626. The work is a rare novelty and would interest almost every reader by the novelty of its style as well as the information it gives. Even written in those early days, we will not say that we moderns may not learn some valuable lessons from it. A reprint in perfect fac simile, has been made of it by Mr. Smith. The publisher will send a copy of the work to any one forwarding four or more subscribers to the Horticulturist, or a copy by mail, post paid, for one dollar. Terms of the Horticulturist, two dollars.

A FRIEND writing to us, with a club of subscribers, dating his letter at "Beechland Retreat," Tenn., adds in a postscript, "I have just commenced keeping 'Bach;' what do I most need?" Why, you need a pleasant, pretty wife, as all good farmers should have.

REMOVAL.

The Office of the Valley Farmer in St. Louis, has been removed to the South-east corner of Chesnut and Second streets, immediately over the Post Office, third story.

ADVERTISEMENTS.—**Read the really valuable advertisements in this number.**

CONTENTS OF No. 3.

Aims of the Farmer..... 71
Structure and Functions of Plants..... 73
Manures, &c..... 74
Fat animals and large crops result alike from abundance of proper food..... 76
Culture of tea in the United States; Clover; Harrowing wheat in the Spring..... 77
School houses..... 78
The Dynamometer..... 79
The influence of Agriculture on the character of man 80
Timothy; The Japan Pea..... 81
Protect your lands from washing; Competent judges at our fairs..... 82
Crosskill's clod crusher; Cardoons..... 83

STOCK RAISING.

Premium essay on the rearing and Management of sheep for wool and mutton..... 84
Another prolific sow; Cattle dying from eating corn stalks that hogs have chewed—Reply by the Editor of the Southern Planter..... 85
Why do cows give so little milk in winter..... 86
Feeding hogs..... 87
Cure for founder; Thumps in Swine; Salt and Charcoal for sheep..... 88

HORTICULTURAL DEPARTMENT.

Planting trees; Ornamental shrubs..... 89
Hardy apple trees for the West..... 90
Grafting..... 91
Raspberries..... 92
A word for evergreens..... 93

THE VEGETABLE GARDEN.

Calander of operations for March..... 94
Celery—its culture..... 95
Culture of Flowers; The tomato—its properties..... 96

THE HOME CIRCLE.

The Garden..... 97
Spring..... 98

YOUNG FOLKS PAGE.

Weary not in well doing; Be clean; Snow..... 99
Editor's Table.....100, 101

EVERGREENS.

The undersigned has for sale at the St. Louis Fruit Garden, situated on the Olive street Plank road, 5 miles west of St. Louis, first house east of the five mile House, a few hundred Evergreen trees, which have been transplanted in this climate and made a thrifty growth. The chief varieties for sale are the White Pine and Norway Spruce, from 3 to 4 feet high, which are hardy and everywhere regarded as the most beautiful of the evergreen species. Persons wishing to embellish their grounds will do well to examine the trees, or address

C. SANDERS,
Care of box 708, St. Louis, Mo.

BLOOMINGTON NURSERIES,

BLOOMINGTON, ILLINOIS.

FIRST CLASS APPLE, mostly root-grafts of best Eastern and Western sorts, 5 to 7 feet, $95 1,000; $12 50 100. 15c. each. Pear, Plum, Cherry, 25 to 50c.; Peach, 15c; Grape, strong, 1 & 2 years, Catawba, $1 50 doz. $8 100; Strawberry, good sorts, 50c. 100; Rhubarb, $1 50 doz. $10 1,00; Houghton Gooseberry, strong, $8 100, $65 1,000; Asparagus, 2 year, $3 1,000; Osage Orange. $2 50 1,000, $200 100,000; N. Spruce, Balsam Fir, White Pine, well rooted, here, 1 to 4 feet, 25 to 80c., 6 to 9 inch. $8 100, $70 1,000; with a general assortment of Dwarf Trees, Shrubs, Greenhouse and Garden Plants, at lowest CASH rates. See catalogue. Try us.

Nov.1y. F. K. PHŒNIX.

J. MALLINKRODT. F. MALLINKRODT A. SCHRADER

NURSERY.

JULIUS MALLINCKRODT, & Co., near Augusta, a Port on the Missouri River, St. Charles Co., Mo., has a large supply of Fruit Trees, Ornamental Trees, Evergreens and Shrubs for sale this season 1857, '58, consisting of

Winter Apples,	Peaches,	Apricots,
Fall do	Cherries,	Plums,
Summer do	Pears,	Nectarines,
Ornamental Trees,	Evergreens,	Shrubs.

Agency in St. Louis, ALEXANDER SHRADER, at Wm. Amend's, No. 91, South Fourth Street.
Depot in St. Louis, Apollo Garden, South Fourth st.

STRAWBERRY PLANTS!

One Million Strawberry Plants For Sale!!!

W. E. MEARS,

Mount Washington, Hamilton county, Ohio.

Having paid particular attention to the cultivation of this fruit, I am prepared to furnish plants in any quantity at prices to suit the times. Purchasers who are particular about having varieties True to name, will do well to give me their orders. Address as above by mail, or care of Jno. F. Dair & Co., Cincinnati, Ohio.

		Doz.	100	500	1000	10,000
Peabody's New Seedling	H.	$2.50	$15,00	$60,00	$100,00	
Hauntboy	H.	50	1,00	3,00	5,00	$40,00
Hovey's Seedling	P.	50	1,00	3,00	5,00	40,00
Longworth's Prolific	H.	50	1,00	3,00	5,00	40,00
McAvoy's Superior	P.	50	1,00	3,00	5,00	40,00
Genesee	H.	50	1,00	3,00	5,00	40,00
Climax Scarlet	P.	50	1,00	3,00	5,00	40,00
Washington	H.	50	1,00	3,00	5,00	40,00
Monroe Scarlet	P.	50	1,00	3,00	5,00	40,00
Large Early Scarlet	H.	50	1,00	3,00	5,00	40,00
Willey's Seedling	P.	50	1,00	3,00	5,00	40,00

—ALSO—

		100	1000
2,000 Allanthus, 6 to 8 feet high		$8	$ 50
2,000 Silver Maples, 6 to 8 feet high		12	100
10,000 Two-year old Apple Trees, 4 to 6 feet high		12	100
1,000 very large Morello Cherry—large heads		12	100

With a general assortment of Evergreens, Shrubs, &c., all of which must be removed from the grounds now occupied, and will be sold low for cash.

W. E. MEARS,
Mount Washington, Hamilton county, Ohio, March 1. 1t

HUNGARIAN GRASS SEED.

THE proprietors of the Burlington, Iowa, Agricultural Warehouse and Seed Store, having engaged large supplies of this new and valuable seed, are now prepared to offer it in any quantity, at the lowest possible cash price. Although but lately introduced into the country, its success has been decided and complete wherever grown, so much so, indeed, that it is fast usurping the place of all other grasses, the quantity of its hay being much greater, while the quality is indisputably superior. Over seven tons are known to have been cut from one acre, the average being from four to six tons.

Particular information as to its character, manner of growth, &c., if desired, will be much cheerfully given to all correspondents. Send in your orders.

KEITH, ROBINSON & CO.,
Jan1–3m Main street, Burlington, Iowa.

FRUIT TREES! FRUIT TREES!

THE subscriber respectfully calls the attention of persons wishing to plant trees, to his stock of well grown trees, of proper size and age for transplanting. His trees are grown in the most superior manner, and are of such varieties as are best adapted to the wants of the West and Southwestern States. He has no hesitation in offering his stock to the public with the full assurance that he can fill their orders in the most satisfactory manner, and at prices as low as can be furnished from any other reliable source. His stock of Peaches and Dwarf Pears is remarkably fine, to which he calls particular attention.

Packing done in the best manner for distant transportation. Trees delivered in the city free of charge.

Catalogues sent gratis to all who apply for them and send stamps for their prepayment.

Orders through the Post Office, or left at A. JONES & SON, No. 107 Fifth street, punctually attended to.

Cottage, Garden and Nurseries, Reading Road, Cincinnatti, O. JOHN SAYERS,
Jan 3t Proprietor.